Special Report

September 5, 1960

RAILWAY AGE *weekly*

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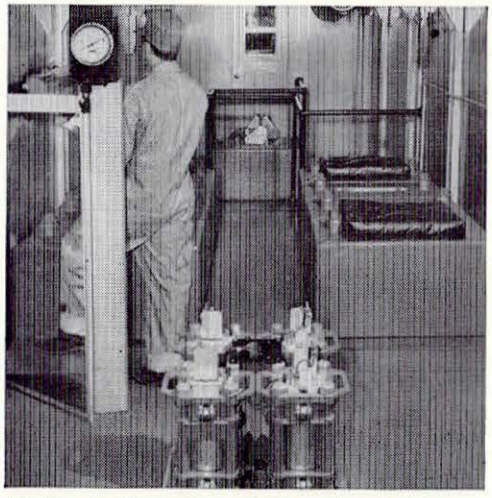

Interior of a Symington test car equipped with vertical and lateral accelerometers (center foreground and center background). Weight blocks are changed for various loading conditions, truck action can be observed through floor windows at either end.

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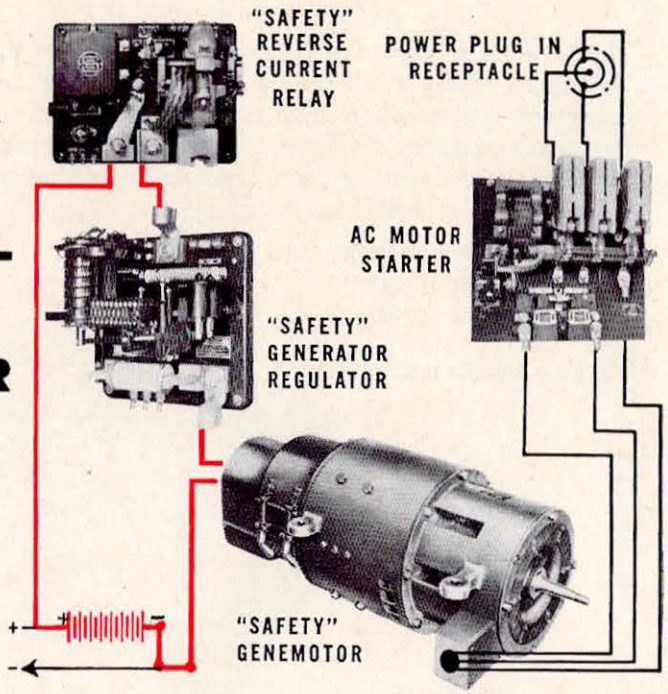

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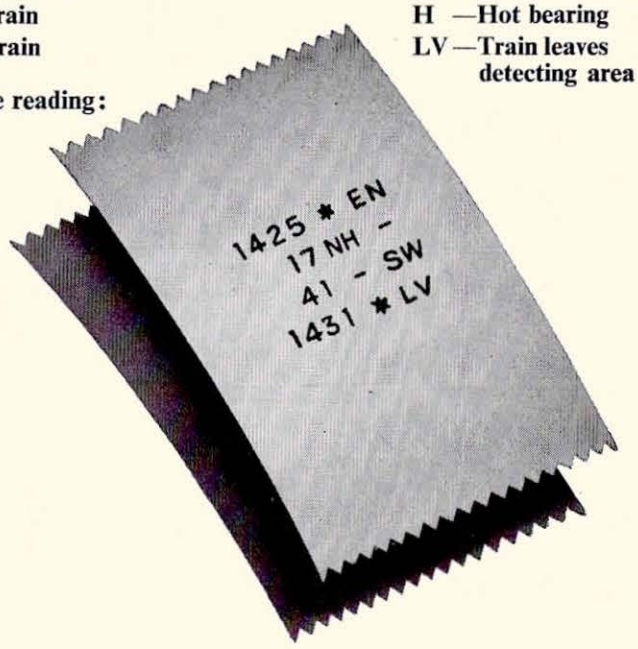
The most accurate hot bearing detector is the only one with a printed readout tape

The UNION Hot Bearing Detector operates in less than one microsecond. This speed makes possible accurate readings at all train speeds. And any dangerous or abnormal condition is recorded immediately on a readout tape that's so simple a schoolboy can read it. It shows simple abbreviations and digital time: 0001 to 2400, one minute past midnight to the following midnight. The abbreviations include:

EN—Train enters detecting area
S —South side of train
N —North side of train
W —Warm bearing
H —Hot bearing
LV—Train leaves detecting area

Here's a sample tape reading:



The top line shows that the train entered detecting area at 2:25 P. M.
2nd line: 17th car from head end has hot bearing on north side.
3rd line: 41st car from head end has warm bearing on south side.
4th line: Train exits at 2:31 P. M.

The UNION Hot Bearing Detector gives accurate temperature measurements for both roller and friction bearings at all train speeds, without human interpretation. Only one set of equipment is needed to check traffic moving in either direction. It determines whether the bearing needs immediate attention, or whether the temperature is below the danger point, but warmer than normal. It can be maintained and adjusted at any time with ordinary test instruments. It can transmit information over any standard communication channel—direct wire, carrier, or microwave. Its accuracy is unaffected by supply voltage fluctuations and it can operate from commercial power sources. All this, and it's built to rugged railroad standards.

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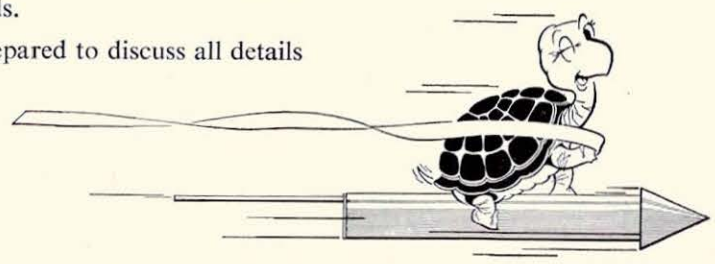

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RAILWAY AGE *weekly* September 5, 1960 • Vol. 149, No. 10

Week at a Glance

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Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn. Second-class postage paid at the Post Office at Orange, Conn. James G. Lyne, chairman of the board; Arthur J. McGinnis, president and treasurer; Duane C. Salisbury, executive vice-president; George Dusenbury, vice-president and editorial and promotion director; Robert G. Lewis, Joe W. Kizzia, M. H. Dick, M. J. Figa, R. C. Van Ness, vice-presidents.

Ops reveal counterdemands ..... p. 9

Timing their announcement for Labor Day, the operating brotherhoods have revealed their counterdemands to railroad rules proposals filed last November. The brotherhoods' two-part counterproposal calls first for four agreements that would include wage improvements, crew consists, protection of employees in mergers and stabilization of employment, and second for establishment of a commission to investigate and report on effectuation of the agreements.

RRs deny barge case is 'general' p.12

IC and SP, in briefs filed with the ICC, deny that their proposals to acquire control of a major barge line — John I. Hay Co.—is a general case. They say it is a specific proposal that should be decided as such.

Cover Story—Rust carries high price tag for railroads p.16

The industry's annual rust and corrosion bill adds up to between $400 million and $500 million. The problem can be attacked on three fronts — by construction design, by use of corrosion-resistant materials, by protective coatings.

Skates replaced by automatic retarder p.20

An automatic, mechanical retarder developed for use in place of skates at the leaving ends of tracks in retarder yards has proved successful in a test installation and has now been installed throughout one yard.

Freight rate increase asked p.34

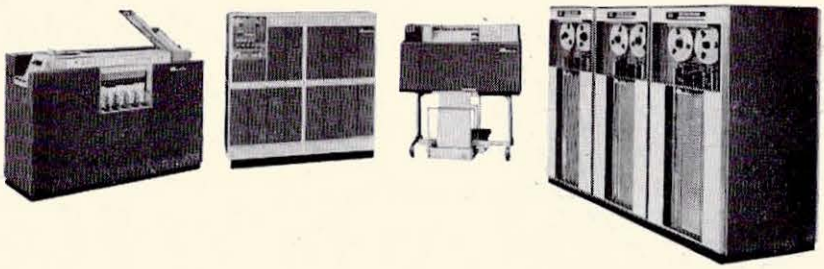
The three territorial rate associations have asked for ICC permission for a flat rate increase on virtually all commodities, including charges for special and accessory services. The requested increases are the smallest, on the average, that the railroads have ever sought on a national basis.

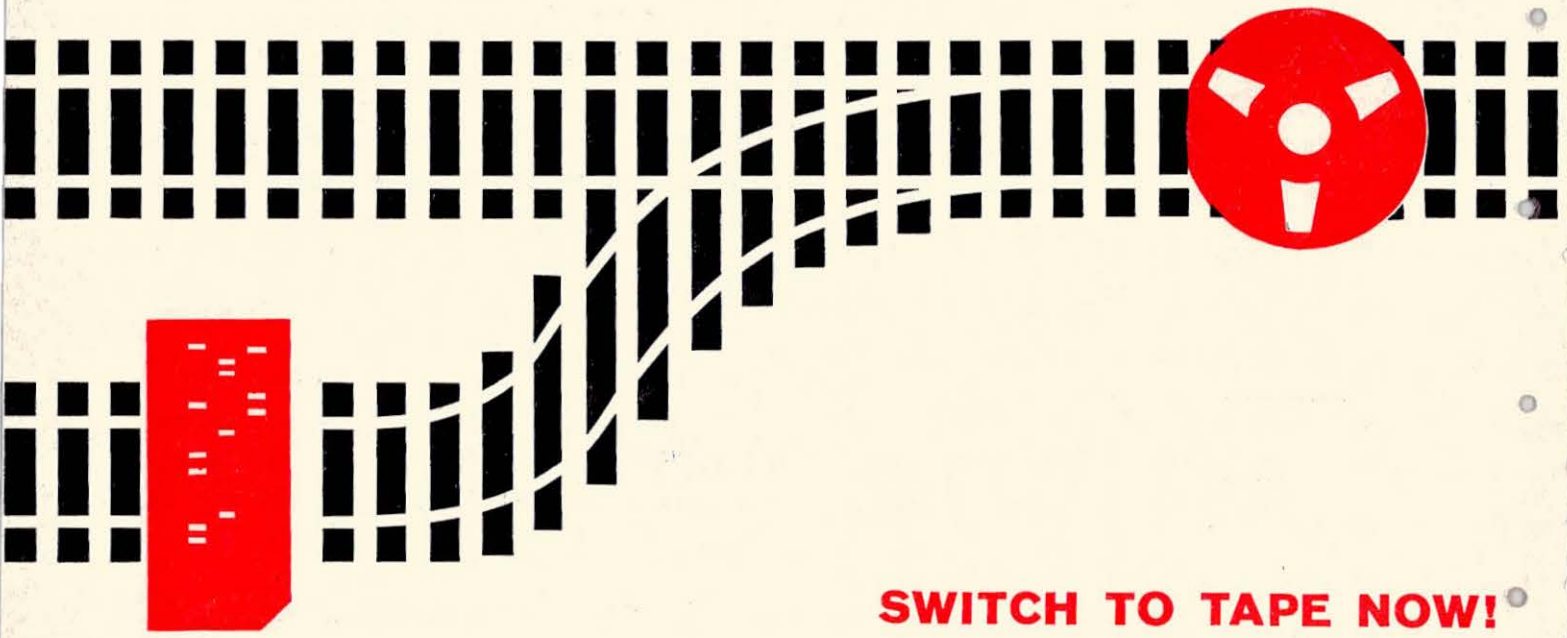
B&O has own merger plan p.38

With the position of B&O's Swiss stockholders on the relative merits of C&O and NYC offers for the stock still the subject of claims and counterclaims, B&O itself last week disclosed a proposal for a three-way merger of the roads.

The Action Page—Trends are all-important p.42

In making rates designed to increase railroad traffic and earnings, it is trends and only trends, that are important. Here is a hypothetical example which shows why that is true.





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Get the facts on this low-cost system, as specifically related to your road's needs. Call your local IBM representative today. Like all IBM data processing systems, the new 1401 can be leased or purchased.

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Week at a Glance CONT.

Current Statistics

Operating revenues	
6 mos., 1960 ...	$4,888,272,515
6 mos., 1959 ...	5,025,454,654
Operating expenses	
6 mos., 1960 ...	3,839,572,469
6 mos., 1959 ...	3,904,047,540
Taxes	
6 mos., 1960 ...	542,466,051
6 mos., 1959 ...	546,801,508
Net railway operating income	
6 mos., 1960 ...	330,289,134
6 mos., 1959 ...	413,621,685
Net income estimated	
6 mos., 1960 ...	238,000,000
6 mos., 1959 ...	307,000,000
Carloadings revenue freight	
33 wks., 1960 ...	19,777,758
33 wks., 1959 ...	20,106,345
Freight cars on order	
Aug. 1, 1960 ...	26,658
Aug. 1, 1959 ...	40,309
Freight cars delivered	
7 mos., 1960 ...	35,295
7 mos., 1959 ...	22,545

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Short and Significant

A TWU strike against the Pennsylvania . . .

idled 72,000 employees last Thursday, sent 136,000 daily passengers scurrying for other means of transport, and affected the movement of 118 million ton-miles of freight a day. Closed down for the first time in its 114-year history, PRR accused TWU President Michael J. Quill of "playing fast and loose with the public welfare for his own purposes." At issue: union demands for stricter job classifications, and union objections to contracting of repair work by the railroad. PRR accepted—but the union turned down—recommendations of both a neutral referee and a Presidential fact-finding board.

The so-called bulk-commodity exemption . . .

which relieves from regulation the transportation by water of commodities in bulk, has been further interpreted by the ICC. The interpretation determines that the exemption does not apply when commodities in bulk are picked up at an intermediate point where they are added to an integrated tow and thus moved in a unit with non-bulk commodities. The interpretation was sought by several barge lines, and the Commission's answer is what the railroads hoped it would be.

New York Central has created . . .

a Freight Marketing Department and a Freight Sales Department. The reorganization, says NYC President A. E. Perlman, will permit the railroad to "plan adequately the plant, services and pricing that are most effective." Arthur E. Baylis, formerly vice-president-freight sales and service, becomes vice president-marketing. Wayne M. Hoffman, chairman of the board of New York Central Transport Co., is the new vice president - freight sales.

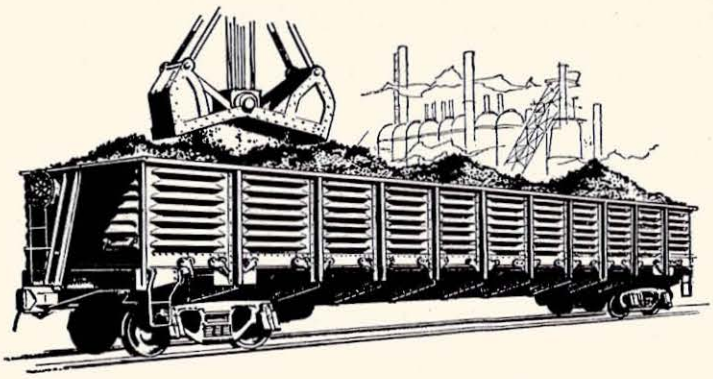
BRT strike threats . . .

hit two carriers last week. On the GTW, pending demands for changes in some 20 local work rules caused a strike call—later postponed as both sides returned to the bargaining table. The National Railway Mediation Board headed off a work stoppage on the Santa Fe by assuming jurisdiction in a dispute over work rules. A one-day wildcat strike of trainmen temporarily disrupted service on the NYC at Elkhart, Ind.

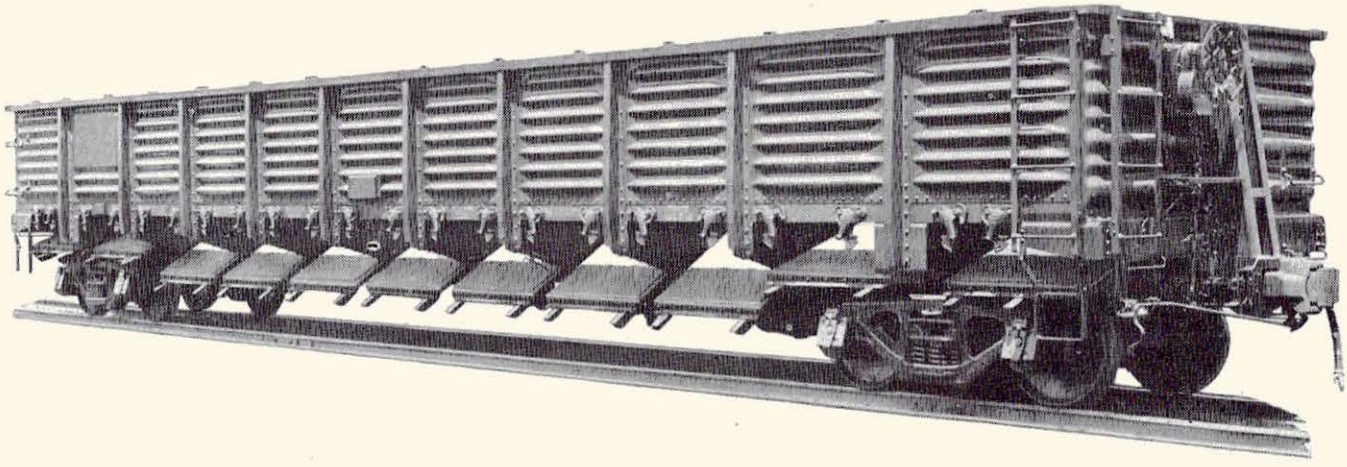
Eastern interstate fare increases . . .

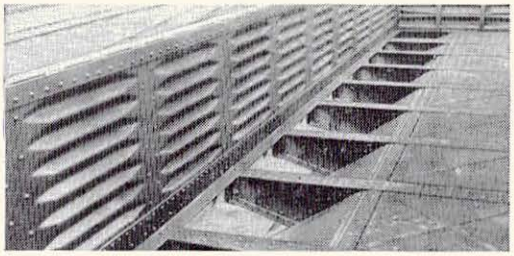
ranging up to 5% became effective September 1 on 15 railroads. The increases were published in tariffs which the ICC did not suspend. The 15 roads are the B&O, B&A, C&O, DL&W, Erie, GTW, Monon, NYC, NKP, N&W, PRR, P-RSL, P&LE, Reading and Wabash.

...takes the mauling of rugged hauling



STANDARD RAILWAY'S
Gondola Sides and Ends





Drop-bottom open . . .

and closed tight.

Few types of rolling stock are expected to take the beatings and absorb the punishment of lading and hauling that gondola cars must take. Their life frequently is limited by the very nature of the job they do.

Standard Railway's new strong, rugged corrugated steel sides with improved Dreadnaught Steel Ends combine to create a super-solid gondola structure that gives years of service without maintenance—years of extra life.

The corrugations between side stakes make the difference. The sides remain strong and straight longer than any other type side in railroad service today. Improved Dreadnaught Steel Ends with Lading Straps provide extra strength to resist bulging, regardless of the lading.

For complete information, write or contact your *Standard Railway representative, Hammond, Indiana.*

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Ops Reveal Counterdemands

► **The Story at a Glance: Labor's answer to management rule-change demands was made known over the holiday weekend. The five operating brotherhoods, in a joint proposal to be served today on all the nation's carriers, are asking for improvement in the wage structure, job stabilization, protection for employees affected by mergers, and a say in determining the size, qualifications and training of train crews.**

The proposal reiterated union demands for a government wage-study commission to study carrier and employee rules change demands.

Neither management nor labor has closed the door on a possible compromise on the study commission proposal prior to the scheduled resumption of bargaining talks on September 7.

Countering carrier demands for improvement in the railroads' antiquated featherbed rules, the operating brotherhoods this week are preparing to present their version of rule modernization.

In a statement signed by the chiefs of the five operating brotherhoods they said the counterproposal "is designed to outline areas for negotiation rather than to indicate specific cents-per-hour requests."

The key item in the counterproposal, according to the statement, is the brotherhoods' demand that the nation's railroads give them a say in determining the size and qualifications and training of train crews.

Noting that their proposal is "in sharp contrast to the demands management made on employees last November 2," the chiefs declared that the management rules notice would "wipe out a half-century of collective bargaining and seriously impair the efficiency of a vital public service industry."

The proposal, presented in full below, was signed by R. E. Davidson, grand chief engineer, BLE; H. E. Gilbert, president BLF&E; J. A. Paddock, president ORC&B; W. P. Kennedy, president BRT; and N. P. Speirs, president SUNA.

"Proposal:

"A—Negotiate agreements providing for the following:

"1—Improvement in existing wage structure including but not limited to provisions for adequate compensation for night work, shift differential, daily, weekly and monthly guarantees, pay for time held away from home and improved overtime rules.

"2—Consist of crews including enginemen (motormen) firemen (helpers), conductors, brakemen, hostlers, hostler helpers, yard conductors (foremen), yard brakemen (helpers), the adequacy of number of men in crew, and the qualifications and training.

"3—Financial and other protection of employees affected by merger, consolidation, abandonment, technological change in operations or by changes in working conditions.

"4—Stabilization of employment.

"B—Establish a commission to function in general conformity with the recommendations of Emergency Board 109 to investigate and report respecting the changes requested above and your notices of November 2, 1959, with the view of assisting the parties to arrive at agreement."

Labor-management talks on the national level on the rules dispute are scheduled to resume Wednesday of this week in Chicago.

One Man Enough, Says North Western

The Chicago & North Western last week requested the Illinois Commerce Commission to confirm findings that the position of locomotive fireman has become obsolete on its push-pull suburban trains.

"Neither the commuter nor the railroad are getting their money's worth out of the fireman crew position," said the North Western.

In its petition, the road stated, "The fireman need not be a trained employee. He is hired off the street and after two student trips automatically becomes a fireman. As a result the present-day firemen can be expected to know very little about the locomotives on which they are employed."

The road said that elimination of firemen in commuter service would reduce operating costs $550,000 annually.

In asking the commission to prescribe that push-pull trains in commuter service may be safely operated without firemen the North Western noted that—

- Twice as many commuters ride on non-fireman railroads as on roads with a fireman in the cab.
- European Railroads long ago abolished the fireman's position in passenger and freight service.
- In operation of push-pull equipment in either direction the fireman has no function or duties.
- The fireman is not needed as a mechanic. On the inbound runs the fireman is sometimes two blocks from the engine.
- The engineer is the only man in the cab with any safety function.
- Safety responsibility is better exercised by one man than two.
- Automatic safety devices on the right-of-way supplement the many safety devices on the trains themselves.

NH Gives ICC Plan for Future

► **The Story at a Glance: President George Alpert testified at an ICC hearing last week that over $24 million in additional funds annually would be needed to refurbish the road's passenger service and provide new equipment needed for modern, comfortable and efficient service. Mr. Alpert's program was offered in response to a request by ICC Commissioner Charles A. Webb for a plan for future operations of the New Haven after preliminary hearings had put most of the blame for NH difficulties on passenger operations (RA, July 11, p. 46).**

In hearings before the Interstate Commerce Commission last week on its request for increased passenger fares (Docket No. 33332), the New Haven submitted a detailed plan of capital expenditures necessary over a 25-year period to modernize all of its present facilities, including—if funds could be made available—freight services and equipment.

The program, which called for an additional $24,500,000 a year to modernize passenger service, was presented in reply to a request by Commissioner Webb that the railroad draw up such a plan. "Solely for the purpose of preparing such a plan," the Webb memorandum stated, "it should be assumed that the necessary funds would be available." The memorandum added, however, that "neither the Commission nor its presiding officers in this proceeding are committed to any recommendation on any aspect of this matter."

The railroad's 58-page presentation pointed out that "all amounts shown are based on the assumption that funds will be available for both the operating costs and capital expenditures necessary to continue the present amount of service to all points now being served."

Speaking for the railroad, President Alpert emphasized that, "while relatively short term assurances of availability of funds may justify increased expenditures for operations, before commitments can be made for capital improvements there must be long term assur-

Watching Washington *with Walter Taft*

• **SEA-LAND RATES** between points in the East, South and Southwest will be scrutinized by the entire ICC. Responding to the petition of interested railroads, the Commission has reopened the case (I&S No. M-10415) wherein its Division 3 approved the rates. The reconsideration will be on the present record.

THE RATES, maintained by Pan-Atlantic Steamship Corp. and some 250 participating truckers, apply for "fishyback" service. That's transportation of trailers over both highway and water portions of the through routes. The rates have been in effect about two years, and Pan-Atlantic contends they are necessary to survival of water-carrier service in the Atlantic-Gulf coastwise trade.

THE PRIOR REPORT was made by Division 3 last February (RA, Feb. 22, p. 9). It was assailed by Division Chairman Freas who filed a dissenting-in-part opinion. He protested because he thought the majority ruling amounted to "umbrella rate-making," and was thus contrary to what Congress had in mind when it passed the 1958 Transportation Act's rate-freedom provisions.

PRINCIPAL OBJECTIVE of the railroads is to convince the Commission that its final order should not prescribe differentials between the sea-land rates and competing all-rail rates. Division 3 prescribed differentials, brushing aside railroad contentions that they were not justified by cost evidence in the record.

THE DIVISION indicated that it had the 1958 act's rate-freedom provisions in mind—but it seemed to consider them less pertinent than other provisions of the act which authorize the Commission to prescribe "reasonable differentials" between rail and water rates and which stipulate that differences in rates of a water carrier from those of a railroad shall not be deemed to constitute an unfair or destructive competitive practice.

THESE DIFFERENTIAL PROVISIONS were interpreted by the division as "indicative of Congressional intent that, where necessary to permit an essential, economically operated water carrier to participate in the economical movement of traffic, the service in connection with the water carrier should be accorded some advantage in the form of lower rates." That's what drew Division Chairman Freas' protest. He said differentials "to protect the high-cost form of transportation" are not in tune with the 1958 act nor the national transportation policy.

• **INVESTIGATION OF OIL TRUCKING,** which was sought by the five train-service brotherhoods, won't be undertaken by the ICC. Grade-crossing accidents involving trucks carrying petroleum products and similar flammable liquids prompted the unions, last May, to seek a general Commission inquiry to determine what new regulations or other measures might prevent such accidents.

IN DENYING THE PETITION, the Commission said it did not appear that constructive changes in its safety regulations would result from such an inquiry. The denial order added that "encouragement of uniform safety laws and regulations and uniform enforcement . . . by the several states appears to be the most effective present means for improvement of the situation."

ance of funds for recovery of long term investments."

A possible solution, the railroad suggested, would be "through the purchase of such equipment by a public authority and its lease to the railroad." Safeguards were proposed to assure that any funds advanced for support of continued passenger service would be used for that purpose. The railroad suggested an arrangement whereby "funds advanced in any one year in excess of current requirements for operating costs and agreed return on investment would be deducted from advances during the next year as soon as the results of operations were compiled in accordance with the accounting requirements of the ICC."

The railroad's program included plans for $76,700,000 worth of new equipment to be financed over the next ten to 25 years. Included in this total were 30 dual-purpose FL-9 locomotives, 510 freight cars, 115 MU cars for New York suburban service, 136 other cars for passenger service and 201 baggage and mail cars. The 30 FL-9 locomotives, costing $8,310,000, are included in this total, Mr. Alpert said, but have already been financed by the railroad and will be put into service this fall.

Extensive repairs that the railroad says are needed for existing equipment were listed in detail. Continued deficit operations, the railroad said, have made it necessary for the road to cut back expenditures for maintenance beyond the amount required for safety of operations.

The New Haven told the Commission that it had spent $21,700,000 on equipment maintenance in 1959, adding that it estimates 1960 expenses in this category at $23,700,000. These sums are adequate to provide safe operations, the railroad said, but are not sufficient to provide repairs that would add to the efficiency and cleanliness of the trains. As a result, as of June 30, deferred maintenance of equipment had accumulated to well over $14,000,000.

The railroad could catch up in its equipment maintenance over a two-year period, if necessary funds were available, the report said. Rehabilitation of locomotives, freight and passenger cars and work equipment would get top priority in such a program.

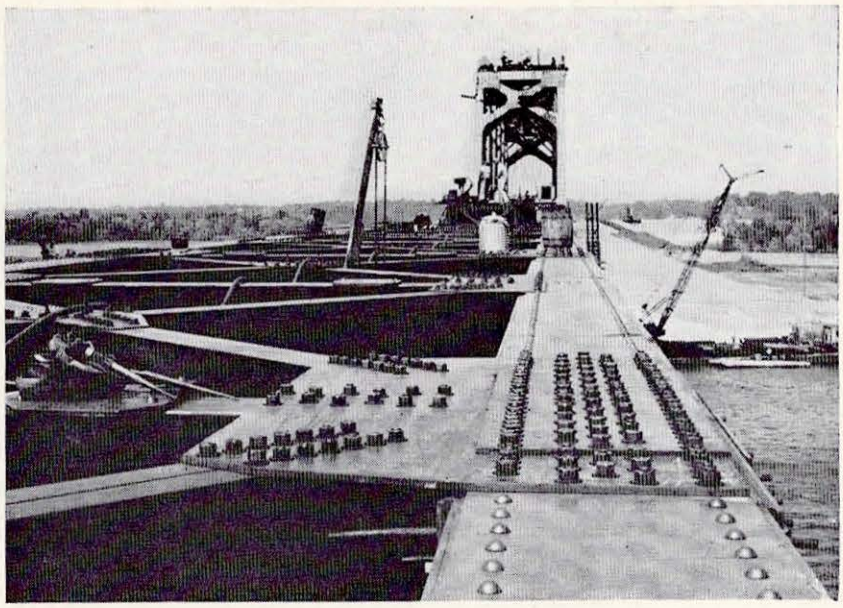
To make these repairs, the railroad said, capital funds would be needed to erect additional shop facilities, which would include a combined passenger and freight car shop at the road's Cedar Hill yard capable of handling complete overhauls and heavy repairs, a modern electrical repair shop at New Haven, expanded facilities at Stamford to handle light repairs and periodic inspection of the MU commuter equipment, and a modernized repair track in the Cedar Hill yards for light repairs of freight cars.

The railroad plan would not only "restore normal maintenance," the Commission was told, but would also schedule certain locomotives, freight cars and work equipment for major rebuilding and modernization over the next six years. Total cost of this phase of the program would be $8,000,000, of which about $3,500,000 would be spent in the first year.

The report to the ICC also outlined New Haven's present "vigorous program for developing new freight revenue," including new agencies and increased sales forces. In this category, an on-the-job educational program to increase the effectiveness of sales personnel and an employee incentive program have already been established, the railroad noted.

Piggyback operations, which the NH pioneered and which are well suited to its region, are an area the line hopes to develop, the New Haven said. As part of this phase, additional funds would be required for new piggyback equipment, including 200 two-trailer flat cars.

Branch line freight operations with low volume of business are candidates for abandonment, the report said.



High-Strength Bolts Used to Complete Bridge

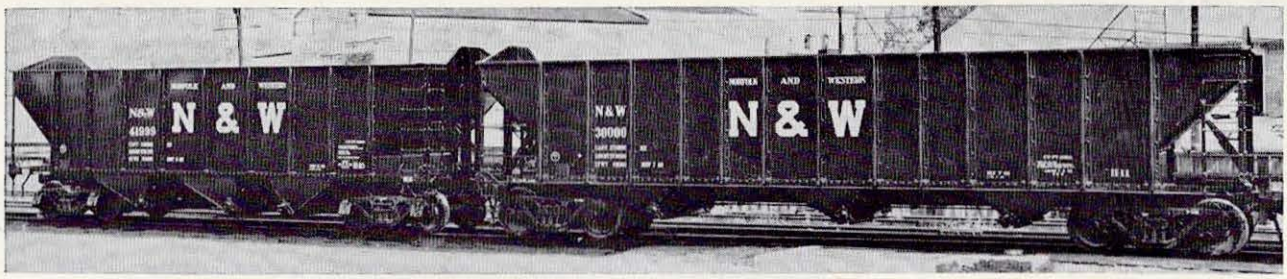
CB&Q's partly constructed bridge at Quincy, Ill., will be completed using high-strength bolts instead of field rivets. The 2,500-ft bridge being built by the Bethlehem Steel Co. will become the first major railroad river-crossing to be high-strength bolted. The final two-thirds of the bridge yet to be completed will require about 140,000 bolts. The change from riveting to bolting is being made because of difficulty in finding experienced riveters needed to keep the project on schedule. Compared to riveting work, a good bolting job can be turned in by men with very little experience, Bethlehem says.

REA Adds 7 Airlines To Coordinated Service

Railway Express Agency has signed interline agreements with seven more U.S. scheduled airlines to provide coordinated air freight - surface express service to non-airport points. The seven air carriers are: Delta Air Lines, Flying Tiger, Mackey Airlines, National Airlines, Northeast Airlines, Pacific Air Lines and Riddle Airlines. Identical agreements between REA and United Air Lines and TWA were signed earlier this year (RA, May 2, p. 36).

The cargo pacts provide for a single receipt to shippers covering movement by air freight between the system cities served by the nine airlines and surface express between those points and non-airport communities served by Railway Express. The receipt covering transportation to final destination is furnished by the originating carrier.

Shipments may be originated either as air freight or surface express.



N&W Completes its First 85-Ton Hopper of 1,000-Car Program

First car of a 1,000-car, $12,000,000 hopper car program has been completed by the Norfolk & Western Railway at the road's Roanoke shops. Number 30000, first of the new 85-ton roller bearing hoppers came off the production line Aug. 16 and was coupled to No. 41999, last of an 8,000-car program of 70 ton hoppers built during the last four years. New cars are eight feet longer and five tons heavier than the old, and have 36- rather than 33-inch wheels. Cars will be finished at the rate of eight a day.

RRs Deny Barge Case Is 'General'

The Illinois Central and Southern Pacific deny that their proposal to acquire control of a major barge line —John I. Hay Co.—is a general case. They insist that it's a specific proposal, and that the ICC should decide it on that basis.

This position was taken in the brief which the railroad applicants filed with the Commission. It's contrary to the position of competing transport agencies which have approached the case as one destined to become a precedent setter on the issue of railroad operation of water services.

"This," the IC-SP brief said, "is not a general investigation case. It is a proceeding limited to the issues of the propriety of the proposed transfer of a specific water common-carrier certificate with clearly defined operating rights. . . . There are both factual and policy considerations in this proceeding which are unique to it, and any decision in the case necessarily is confined to those matters properly before the Commission."

The railroads' brief also told the Commission that it would not be in keeping with sound transportation regulation nor the national transportation policy "to block progress in transportation and that, in essence, is what is being done by those who oppose the application." The opponents "argue for transport stagnation," the brief added.

The Commission has also received several other briefs in the case, including the National Industrial Traffic League's presentation in support of the applicant railroads and the opposition presentation filed by a group of barge lines and American Trucking Associations (RA, Aug. 29, p. 54). Several additional opposition briefs have been filed.

American waterways operators argued that the National Transportation policy would be "tortured" by a granting of the application. The Great Lakes Ship Owners Association said that favorable Commission action would "give approval to a radically new and untried transportation concept, all contrary to existing law and practice."

The Mississippi Valley Association and other like organizations, and several individual water carriers, contended that the proposed acquisition would curtail competition and prevent Hay from being operated in the public interest. The National Marine Engineers Beneficial Association said, if the application is granted, "there will be nothing to stop the railroads from acquiring the remaining competing barge lines" and "once this happens, history will repeat itself and the water transportation industry on the inland waterways will become a ghost, just like our coastwise shipping, a victim of the railroads."

The Air Transport Association said "Congress regards separate ownership of transportation modes as essential to the public interest," and "independent ownership has resulted in vigorous growth of the separate transport modes." The American Association of Small Businesses said that opposition to the proposed acquisition is "almost universal" among small businesses, and that "the enemy of the barge business is, and has been, the railroads."

Boston-Chicago: Faster Freight

The New York Central put into effect last week a new "Super-Van" schedule between Boston, Worcester, Springfield and Chicago that provided for what the railroad described as "the fastest freight service ever offered between those cities."

The Super-Van trains, made up of Flexi-Van containers exclusively, leave Boston at 8:30 p.m. for arrival in Chicago before midnight on the following evening. Eastbound on the 1,000-mile run, departure is at 11:00 p.m. for arrival in Boston shortly after midnight on the second day. The Boston service is a companion to the Chicago-New York Super-Van service NYC introduced earlier this year (RA, April 25, p. 18).

Initially the new service will be available to shippers on a Monday-through-Thursday schedule. "Train arrivals are scheduled," according to A. E. Baylis, NYC vice president—freight sales and service, "so that the Flexi-Vans can be unloaded from their special flat cars onto their highway wheels for fast predawn delivery direct to the customer's door." Increased locomotive power and flat cars equipped with roller bearings make possible the high-speed schedules, Mr. Baylis said.

Why Not Reflector Markers?

To the Question and Answer Editor:

The unsigned letter in the Aug. 1 issue, concerning the use of reflectorized discs to indicate the rear of a train and the question of why there has not been more widespread adoption of these reflectorized discs, and the editor's question regarding use of reflectorized discs on switch targets and other fixed signals, warrant an answer.

In March 1955, the Brotherhood of Railroad Trainmen filed, with the Pennsylvania Public Utility Commission, a petition to have a regulation established requiring certain "switch stands and switches" self-illuminated on the railroads operating in the Commonwealth of Pennsylvania.

To quote from the petition, paragraph 6:

"Your petitioners have knowledge that numerous accidents, causing injury and death, are caused by the use of reflectorized discs on switch stands, and believe that an even greater number of minor unreported accidents occur from the same cause. These accidents result from the fact that reflectorized discs are not visible at safe distances."

To quote from the petition, paragraph 10:

"Other states of the United States have already adopted rules and regulations or passed statutes regulating the use of such reflector lenses on switch targets."

And finally, to quote from the petition, paragraph 11:

"Your petitioners, therefore, respectfully request that the Public Utility Commission establish rules and regulations providing generally for the use of lighted switch targets and *forbidding the use of reflectorized lenses or discs* and suggest that there be added to Part II of . . . . . etc."

The emphasis above was added by the writer. While it doesn't provide an answer to the gentlemen asking about the use of the discs on the rear of trains, it should provide the answer concerning switch targets and fixed signals.

In the days when railroadmen were men, the oil lamp on a switch stand was an accepted "tool of the trade." Enginemen on steam locomotives knew the location of the switches by the lamps, as did conductors and trainmen. And in the old days trainmen weren't stupid enough to get off of a moving train and bump the switch stand.

The railroad on which I am employed had added the reflectorized discs to certain switch stands with the thought that it would contribute something to safety at night because of better visibility. But now, lawyers, politicians, and trainmen seem to know more about the technical aspect of switch stand lights than do the railroads' engineering departments. The electric lights, which regulation now prescribes for switch stands, are no brighter than were the oil lamps; probably require more maintenance (bulb and/or batteries); and can become just as dark due to bulb failure. So with an expenditure of large sums of money (the railroads' money—not the taxpayers') the improvement is somewhat doubtful.

And the further use of reflectorized discs on switch stands in Pennsylvania is prohibited by law.

[*This letter was received from a member of a railway engineering department who prefers not to be identified by name.—Editor.*]

Discs 'Entirely Satisfactory'

To the Question and Answer Editor:

In your Aug. 1 issue you raise a question about the use of reflectorized discs as caboose markers in place of the traditional oil marker lamps.

We have had the usual experience with oil markers with trainmen being injured while handling them and the delays to crews filling the oil markers. About two years ago we started replacing the oil markers with reflectorized discs. After some experience we decided on a disc 18 in. in diameter in the center at the ends of the caboose. This disc is covered with 3 M "Scotchlite" reflective sheeting. In addition, a small reflectorized disc about the same size as the oil marker is used in each upper corner of the caboose.

Our experience with these reflectorized discs has been entirely satisfactory. Recent tests showed that the reflectorized disc was visible from the headlight of a diesel locomotive at about 5,500 ft. Oil markers were visible at 4,500 ft. In our regular operations as well as in the test a red lighted lantern is hung directly above the reflectorized disc.

With two years' experience and with these test results we are convinced that the reflectorized discs do a better job than the oil markers.

Unfortunately union representatives do not always agree with management. In our state the unions have started a proceeding before one of the state regulatory agencies which, among other things, would require the railroads to light all cabooses with electric markers on the rear. No hearings have been held as yet on the proposal.

At one time, a considerable number of reflectorized switch targets were in use. The unions protested that these created an additional hazard and handled this question with the state regulatory bodies. As a result, the use of reflectorized switch targets was restricted.

As part of this overall question of rear end protection, why not eliminate the flagging rule in automatic block signal territory? This could result in some real savings. There has been some talk on the subject, but as far as we have learned no railroad has gone all out to eliminate flagging requirements.

[*These comments were provided by a railroad executive who prefers to remain anonymous.—Editor*]

At least one railroad (PRR) is using not only reflectorized discs but also electric flashing barricade units as markers (RA, Aug. 29, p. 42). Pennsylvania says it will eventually replace all oil markers with one or the other of the new devices.—Editor.

A forum for railroaders who want to explore questions of importance to their industry, this column welcomes both questions and answers from readers at all levels of responsibility in the industry and associated fields. We'll pay $10 to any reader submitting a question that forms the basis for a column discussion. Address correspondence to Question and Answer Editor, Railway Age, 30 Church St., New York 7, N.Y.

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A lifetime lubricating oil for railroad diesels

Results from 3 years of over-the-rails freight service show that Shell Talona RS Oil 40 is a lifetime lubricating oil for railroad diesels!

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Longer filter life. Shell Talona RS Oil 40, with its excellent filterability, safely absorbs more contaminants than conventional diesel lubricating oils . . . affording still further dollar savings by extending filter change periods. It holds contaminants in a finely divided state to prevent sludge deposit formation which could interfere with proper lubrication.

Unmatched engine cleanliness. Talona RS Oil 40 effectively fights deposit build-up . . . keeps engines remarkably clean. At the same time it cuts down oil consumption. And you know that a cleaner engine involves considerably less expense at overhaul time.

Excellent silver bearing lubrication. Shell Talona RS Oil 40 protects silver bearings. It has special extreme-pressure additives that provide effective built-in protection *for the life of your engine.*

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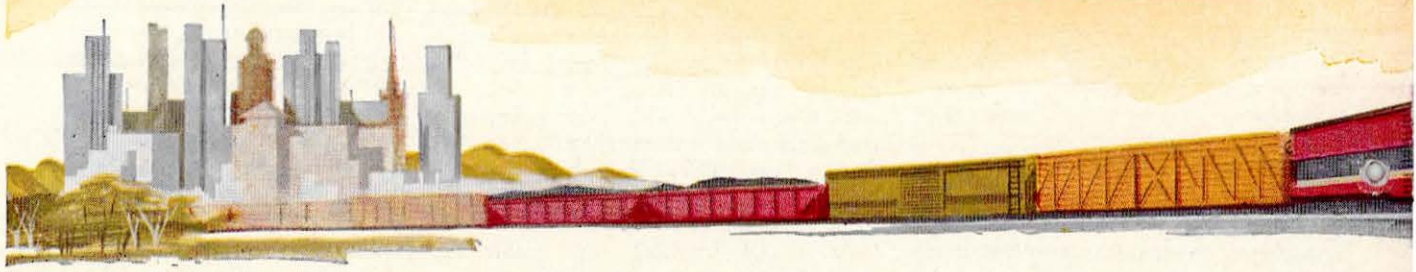

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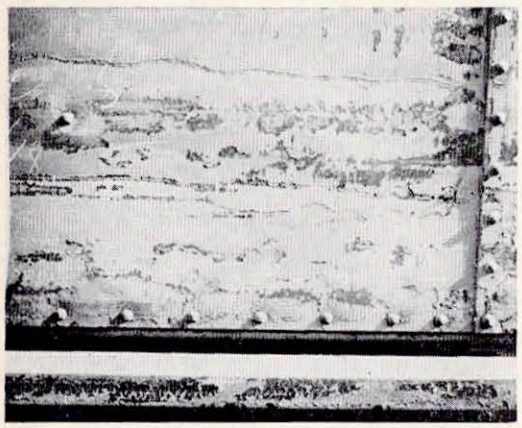
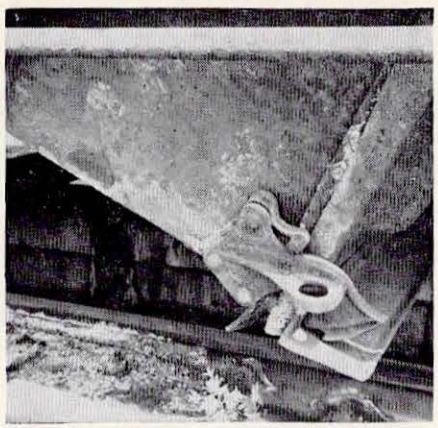
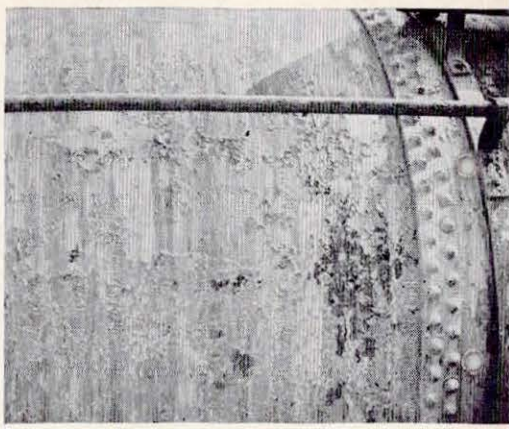


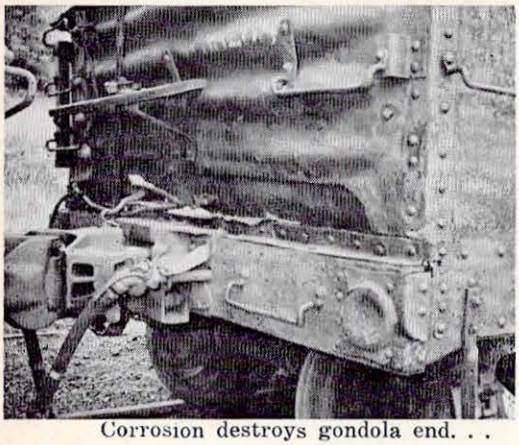
Rust hits box car side sheet. . .



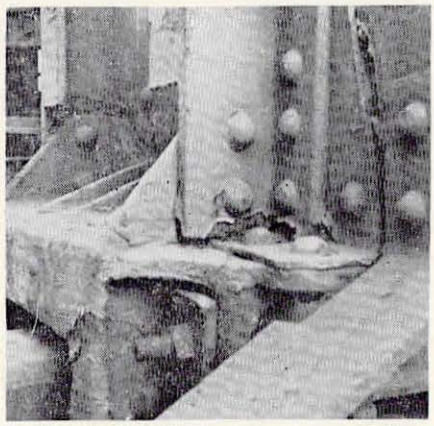
Eats away at car hopper and door. . .



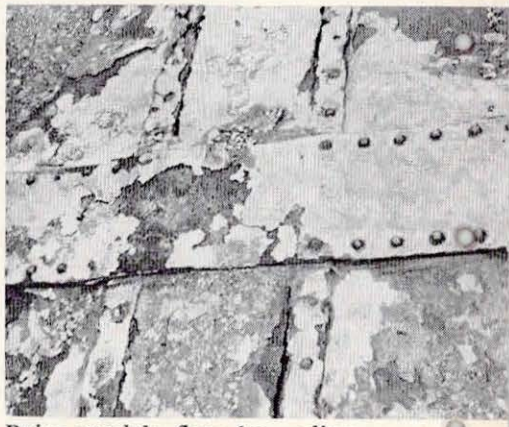
Scales off tank car exterior. . .



Corrosion destroys gondola end. . .



Begins destructive work on car end. . .



Ruins gondola floor by scaling. . .

RUST: Silent Enemy Carries

► **The Story at a Glance: Weather and corrosive lading team up to put jagged holes in the floor of a gondola.**

A hopper door won't open any longer because it's rusted shut.

A box car end begins to pull away from the end sill where rivet heads have rusted loose.

These are specifics that illustrate what rust, a silent but deadly enemy, does to railroad rolling stock. The pictures above tell a story that adds up to an annual drain—between $400 million and $500 million, the experts say—on railroad resources.

The cost can be expressed in dollars spent for repairs to cars and equipment, in new design concepts that minimize corrosion risk; in outlays for new metals and finishes, and, where minimum protection is provided, in shortened life and usefulness of freight cars.

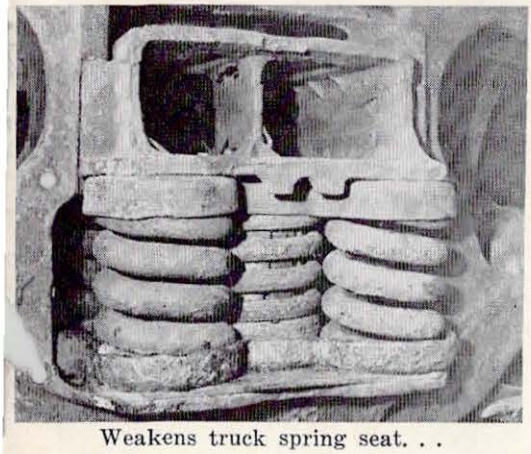
A rusted out freight car can be all things to all people: to the mechanical officer, an expensive repair bill; to the traffic officer, a car that is not a car since his customer can't use it; to the safety officer, an added hazard to worry about; to the operating officer, a nuisance with built-in threat of trouble; to the public relations officer, a bad foot forward for his railroad.

It is a wonder, with so many departments concerned, that the industry has not long ago embarked on a wide-scale effort to trim the annual rust and corrosion bill. Part of the answer, of course, can be traced to the nature of the problem: the average freight car on U.S. railroads was 18.95 years old as of Jan. 1, 1959; it was built *before* many of the modern alloys, finishes and protective coatings were in wide use or even invented; moreover, corrosion prevention costs money. Because rust works silently and sometimes unnoticed until too late, funds are apt to be allocated to more apparent though hardly more urgent purposes.

This much is certain, however. Railroads are faced with fighting an enemy that takes substantially more out of their pocketbooks than more publicized, more obvious loss and damage. In fact, estimates of rust's cost range high—in the neighborhood of 1959 net income, for example. So railroads have a vital interest in ways to cut corrosion costs. These means are available.

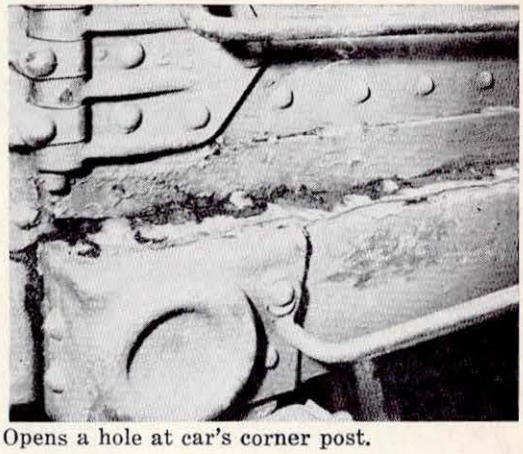
Rust can be attacked on three fronts —by construction design, by use of corrosion resistant materials, by protective coatings. The approach used is usually a matter of economics.

This hits home. For example, corrosion-resistant materials, which are a

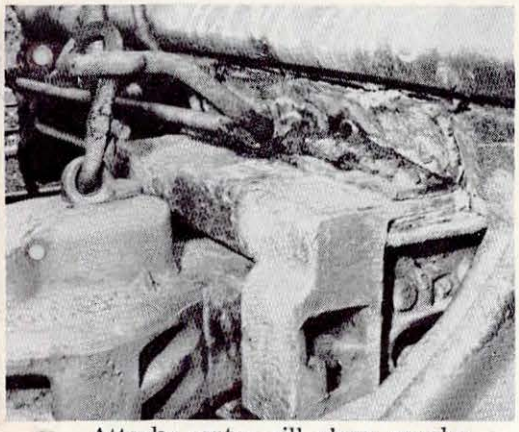


Weakens truck spring seat. . .

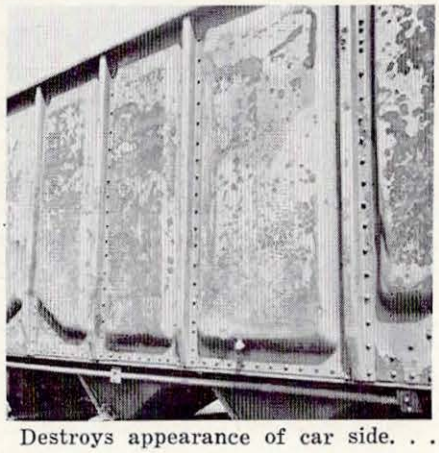
Puts gaping slit in car at sill line. . .



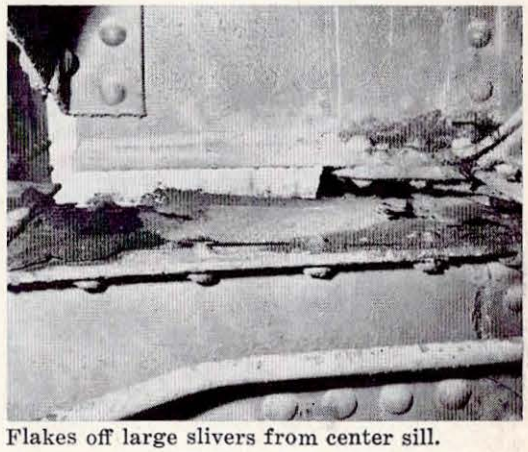
Opens a hole at car's corner post.



Attacks center sill above coupler. . .



Destroys appearance of car side. . .



Flakes off large slivers from center sill.

High Price Tag for Railroads

basic approach to the rust menace, usually have a higher first-cost tag and are frequently brushed aside as "uneconomical." Such a decision, of course, ignores long-range high cost of corrosion simply because of the short range need of many roads to keep down capital expenses.

Design Can Help

Hopper car construction is an outstanding example of how design modifications can minimize the effects of corrosion. Rusting of sides, side stakes, floor and hopper sheets, hopper doors and door frames, has always reduced hopper car service life. Localized corrosion occurs at or adjacent to lap joints and at pockets or ledges that retain coal dust and moisture.

Methods used to avoid damage to these critical areas include the use of butt welding, the reduction of lap joints by design, and the seal welding of lap joints. Seal welding eliminates entrapment of coal and ore dust which absorbs moisture and acts as a corrosive agent. Also, the location of side stakes on the exterior minimizes the corrosion of these structural members.

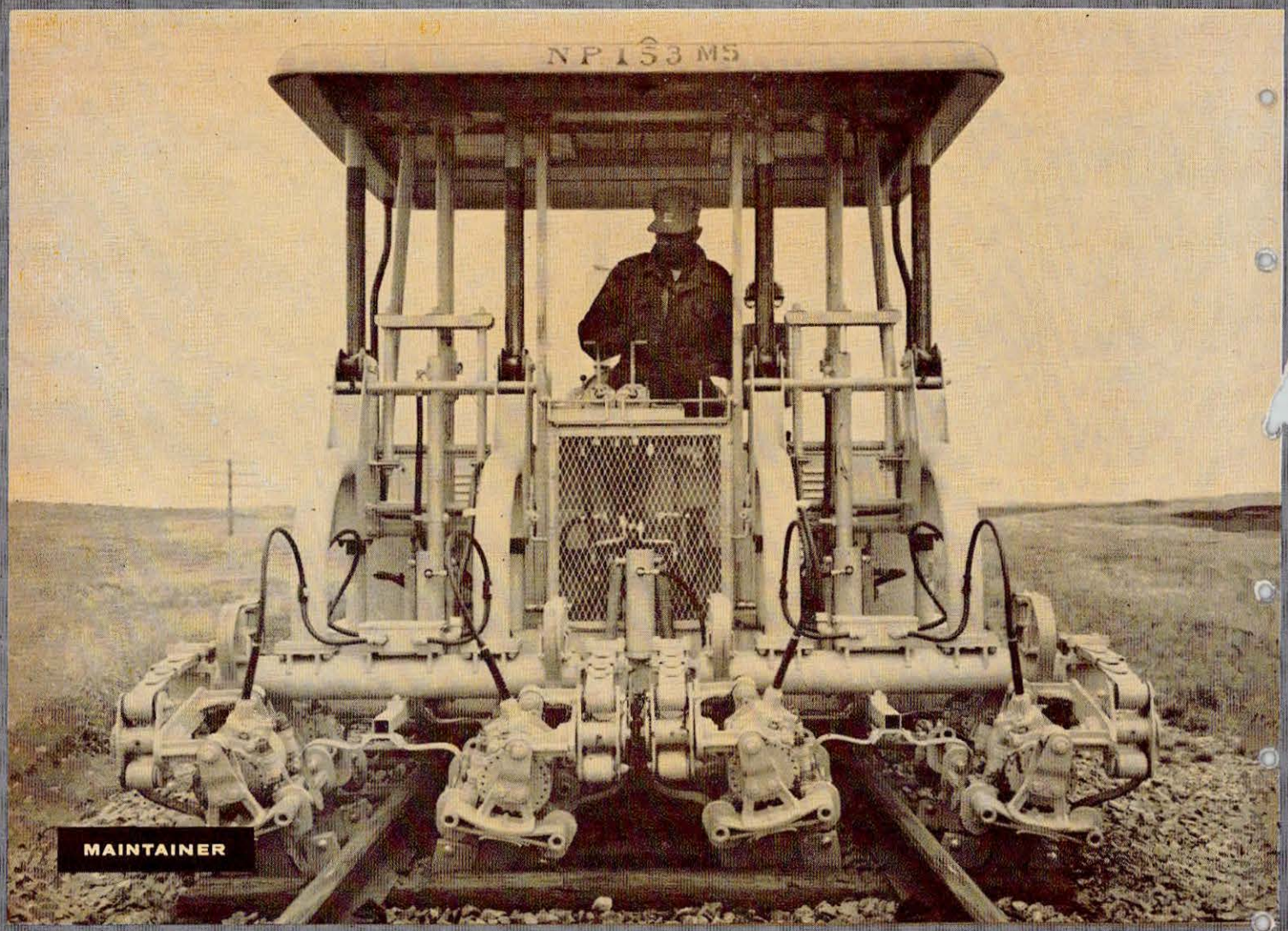
To eliminate the all too familiar sight of box car side sheets rusted through along the floor line, new cars are *built* with larger side sill angles. These larger angles extend above the top of the wooden grain strip. This design change removes concentrated corrosive action from the relatively thin side sheets.

The corrosion-resistant qualities of stainless steels are well known. But the higher initial cost of these steels have restricted their use largely to passenger equipment. Up-to-date figures on maintenance and repair savings of stainless steel cars are difficult to find but every mechanical department officer with such equipment knows that stainless steel cars require no major maintenance work. When these car structures are cleaned up, they gleam like new with the steel untouched by corrosive action.

A case in point is the Budd-built "Pioneer Zephyr," retired this year by the Burlington after 25 years' service. The only stainless-steel sheets requiring replacement during this time were those damaged by accidents. The Canadian Pacific operates the 173 stainless steel passenger cars it acquired late in 1954 on the basis that the cars will not be back shopped for heavy repairs, and will require no painting.

In a special study of subway cars made by the Budd Company it was con-

(*Continued on page 28*)



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THE TRACK MAINTAINER for '61 is a considerably better machine than any of its predecessors though each of them enjoyed first choice position with an overwhelming majority of track chiefs throughout the nation. For both putting up and maintaining track of finest quality at lowest cost it's the best by any comparison. And like all JACKSON equipment it's backed by a most thorough, and entirely cooperative field service organization.

THE JACK-SPOT has now thoroughly proved its claim to being an outstanding triple-purpose machine . . . tops for jack tamping . . . perfect for spotting and smoothing . . . an excellent production tamper for moderate to high raises. ENTIRELY PUSH-BUTTON CONTROLLED and OUTSTANDINGLY SAFE.

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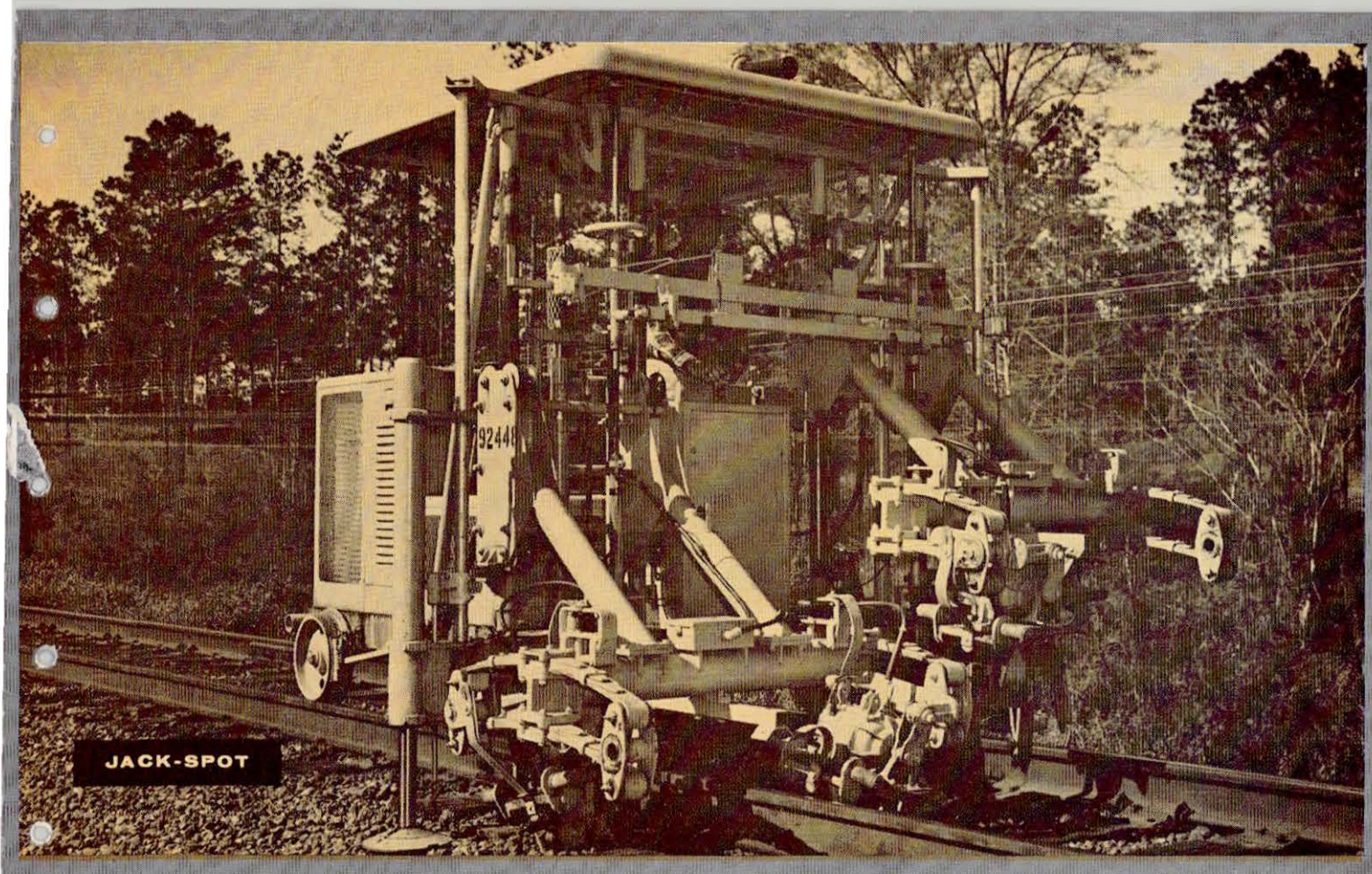

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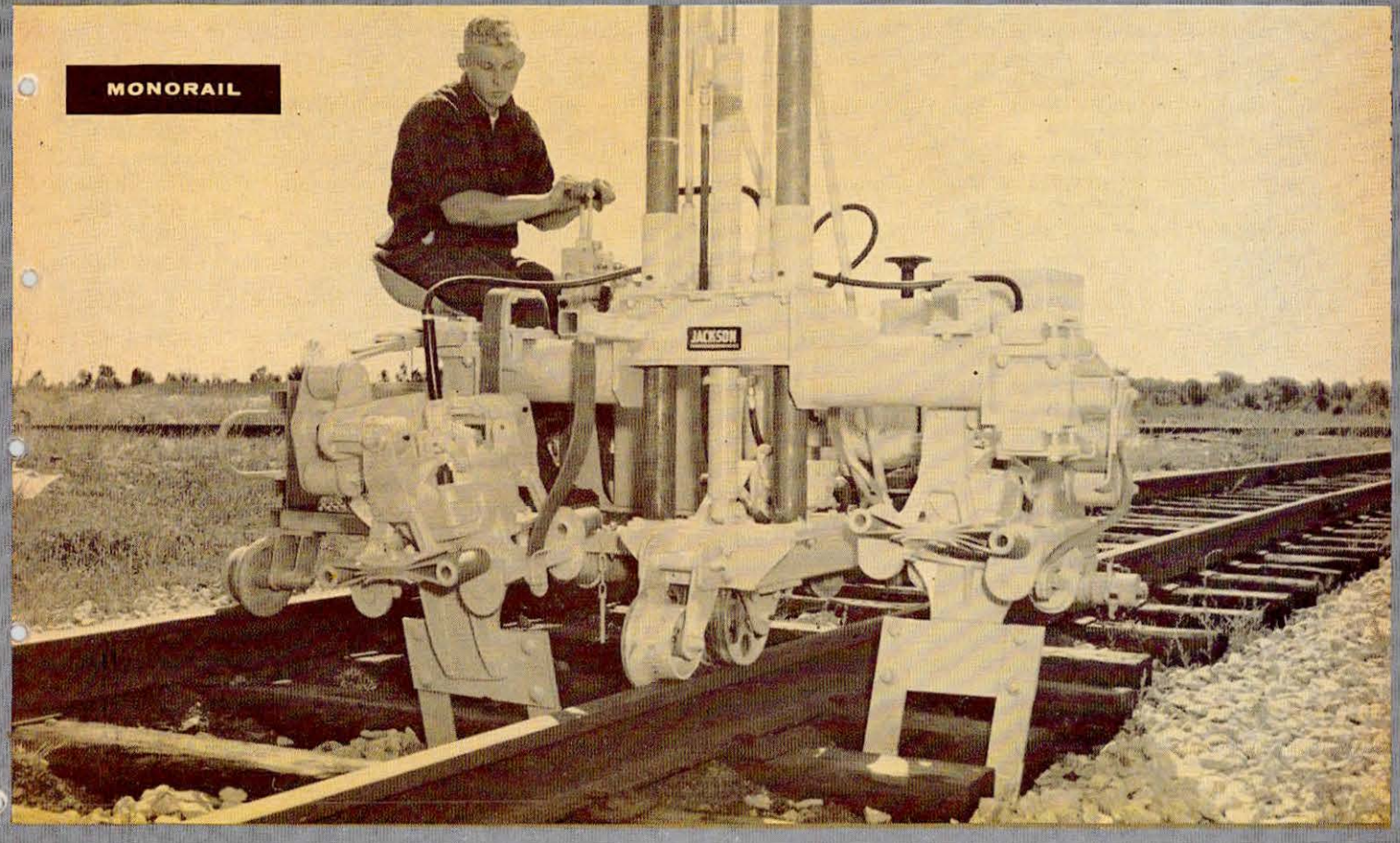
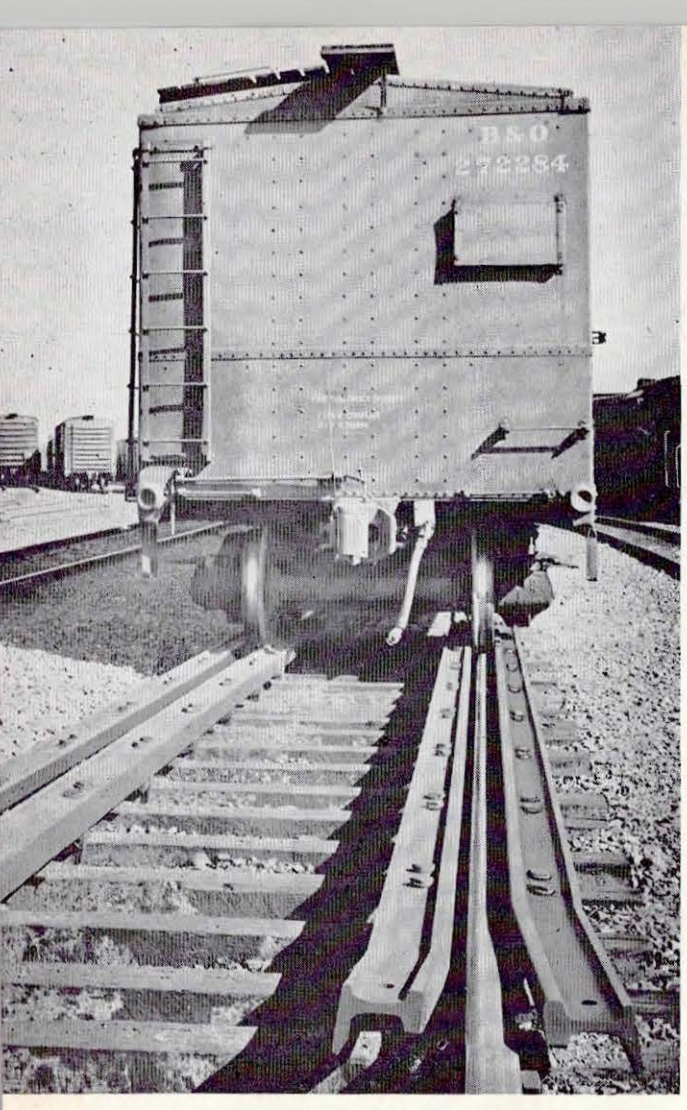
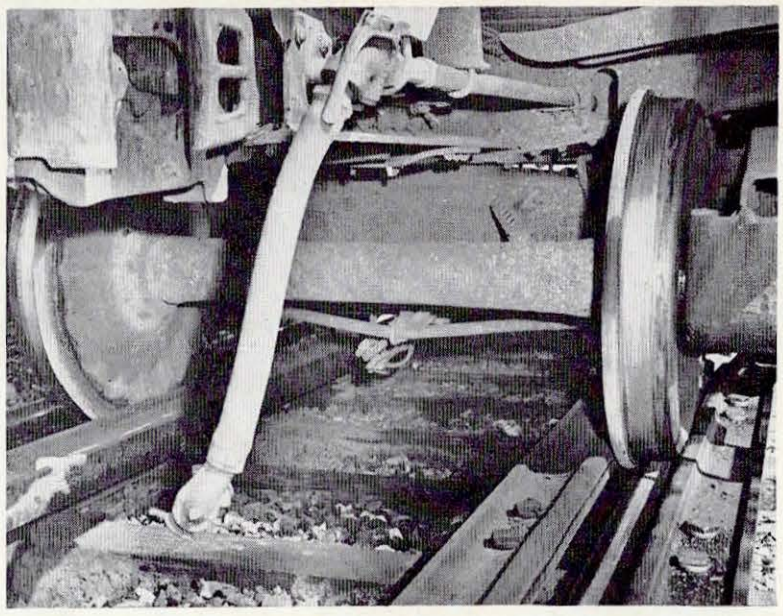




RETARDERS of the new mechanical type are placed at leaving ends of tracks in hump yards.



BRAKING effect is produced when retarder rails are caused by spring action to bear against rims and flanges of car wheels.

Skates Replaced by Automatic Retarder

A cut of five cars, weighing a total of 337 tons, rolled down the hump of a gravity yard, through the master retarder and onto one of the body tracks. As it neared the far end of the 3000-ft track, and while moving at a speed of 7 mph, the rims and flanges of the forward car were engaged by a device newly installed in the track. The cut of cars quickly slowed and stopped with the trailing truck of the second car and the lead truck of the third car in the retarder.

This movement was one of many tests made to determine the efficiency of an automatic, mechanical retarder developed for use in place of skates at the leaving ends of tracks in retarder yards. In another test the same cut of cars, moving at a speed of 9.1 mph, was stopped with the trailing truck of the fourth car and the lead truck of the fifth car in the retarder.

The mechanical retarder under test was a prototype of a device developed by the Railroad Products Division of American Brake Shoe Company. As a result of experience with the prototype it was decided that worth-while benefits would be realized if the retarder were installed throughout the yard. Consequently, one of the retarders was installed in each of the body tracks at a point about 300 ft from the leaving end.

The retarder, generally supplied in 39-ft lengths, consists of spring-loaded rails which apply retarding force simultaneously to both the rim and the flange of each pair of wheels. It is provided in the form of units that are installed opposite each other in the track. Each unit consists of two retarder rails mounted on opposite sides of the running rail and connected by nine spring assemblies.

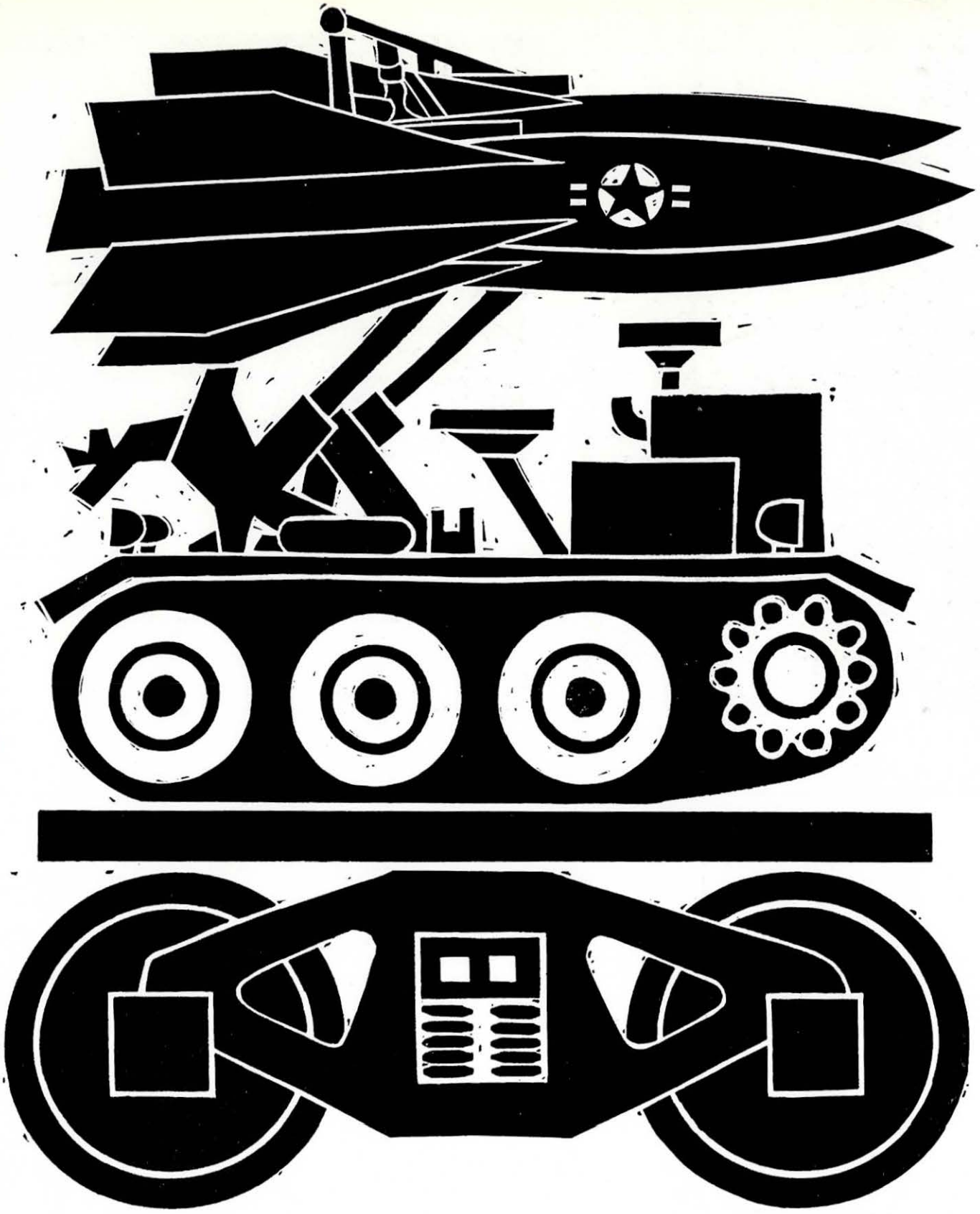
Derailment Threat Eliminated

When a car wheel enters a unit, the retarder rails are forced apart against spring pressure, providing a braking effect on the wheel. It is said that the retarding forces are applied to opposite faces of the wheel in such a way as to eliminate the possibility of derailment. No difficulty is said to be encountered in moving either the cars or the locomotive through the retarder when the track is being "pulled."

In bringing a moving car to a stop, the action of the retarder, it is explained, has the effect of absorbing the kinetic energy generated by the car. It is claimed the device will absorb this energy at the rate of 9,000 ft-lb per foot of retarder length, or 350,000 ft-lb for a 39-ft retarder. Experience is said to have shown that a 39-ft mechanical retarder will stop cars with average loads moving at 7.5 to 10 mph.

In making the retarder installation mentioned above the railroad expected to realize a number of advantages. Similar installations on several other roads are producing estimated annual savings ranging from 30 to 60 per cent on the investment.

These retarder installations are also expected to result in operating benefits. Since the skates had been placed at varying distances from the clearance points—almost in a straight line across the yard—the railroad figures the capacity of the yard has been increased by six or seven cars per track. Further, the number of cars per cut is no longer a factor, and trimming, when not entirely eliminated, is speeded up because it is not necessary to remove and replace skates and release hand brakes.



in any future national emergency, the principal burden of transportation will fall upon the railroads (in World War II, 90% of all military freight moved by rail).

In everyone's interest, public policy should give the railroads the opportunity to compete with other forms of transportation on a fair and equal basis.
ASSOCIATION OF AMERICAN RAILROADS, WASHINGTON, D. C.

In history-making contract, Pennsylvania Railroad orders

GULF MAKES THINGS

One of the largest lubricating oil contracts in the history of railroading has been awarded to Gulf by the Pennsylvania Railroad to supply 2,500,000 gallons of Gulf Dieselmotive 79 during 1960. This contract is part of a continuing P.R.R. program to provide better service to its customers.

Gulf Dieselmotive 79 was approved for service in P.R.R. locomotives after extensive road tests patterned after Association of American Railroads test procedures. Tests were conducted on several locomotives, each operating a total of more than 130,000 miles and 3,000 hours in heavy duty freight service.

Let us show you how Gulf can solve *your* lubrication problems. Call your Gulf office and ask for the complete story of Gulf® Dieselmotive lubricating oil. You'll find that in every application, Gulf makes things run better.

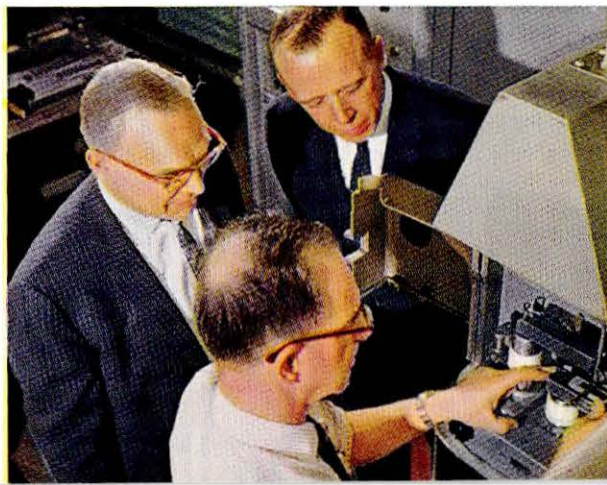
The famous Horseshoe Curve on the P.R.R.'s main line west of Altoona, Pa., has long been a landmark for travelers. Hauling heavy freight and fast passenger trains over this magnificently engineered four-track railroad is a genuine test of equipment and lubricants.

2,500,000 gallons of Gulf® Dieselmotive oil...

RUN BETTER!

GULF OIL CORPORATION
Department DM, Gulf Building
Houston 1, Texas

Looking on during spectrographic oil tests at P.R.R. Testing Laboratory are (left) M. A. Pinney, Engineer of Tests, Pennsylvania Railroad, and C. D. Gilchrist, Gulf Sales Engineer. Thousands of tests like this, over a period of years, confirmed the acceptability of Gulf Dieselmotive 79 oil.

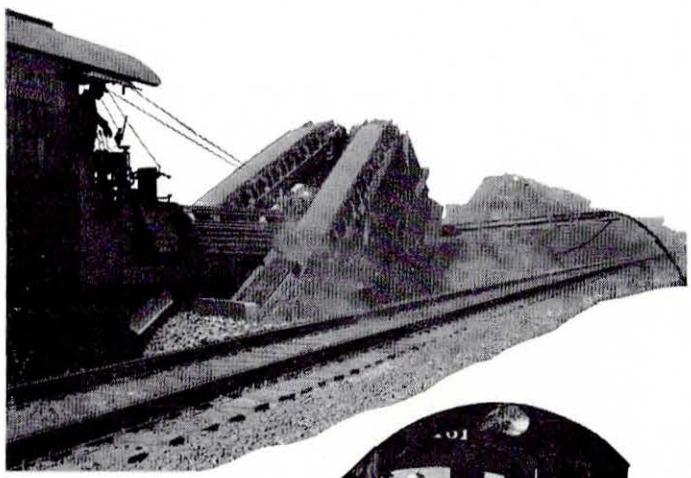


SP-9880

PROGRESS REPORT

SPENO

Here are the up-to-date facts on the SPENO Ballast Cleaning and the SPENO Rail Grinding Services.



BALLAST CLEANING

SPENO Engineering and Research has developed a superior screening arrangement so that we are now using an improved Ballast Cleaner with greater efficiency.

RAIL GRINDING

Our Rail Grinding Service has been so well received we are now building a *THIRD* Rail Grinding Train to take care of the increased demand.

SPENO is constantly developing means for better service to make sure that the Railroads receive everything they pay for — and more

Just Ask the Railroads That have used us!

GEARED TO PROGRESS
P I
MEMBER

FRANK SPENO RAILROAD BALLAST CLEANING CO., INC.

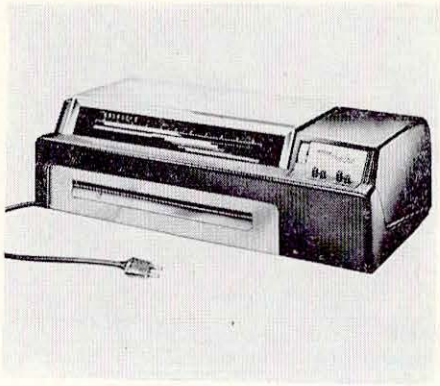
Clark Street
East Syracuse, N. Y.

306 North Cayuga St.
Ithaca, N. Y.

New Products Report

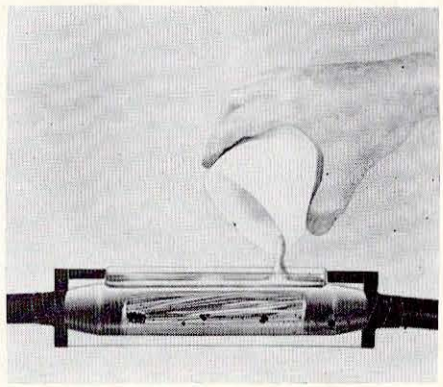
Recording Paper

CALOCOP is a high-quality recording paper for use on Thermo-Fax equipment. Is said to eliminate light reflection and glare; not to curl when run through the machine; not to crack when folded or creased; to require less storage space and weigh less than other papers. Available in boxes of 500 sheets in white, buff, yellow, green, blue, and pink, with free silk screen and glassine jackets. *Calor Copy Corp., Dept. RA, 387 Park Avenue South, New York 16.*



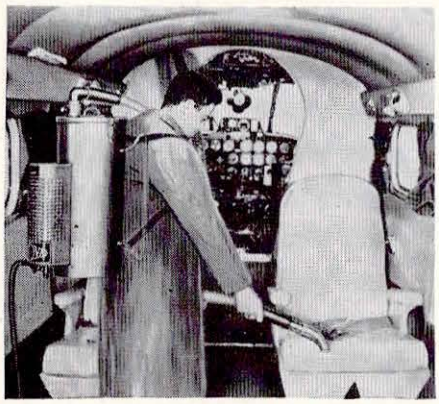
Faster Photocopies

A new high-speed motor on the Uni-Matic "Auto-Stat" photocopy machine is said to cut to seven seconds the time to make one copy. A one-step synchronized operation permits an original copy and photocopy paper to be inserted only once. An intensified fluorescent light source also speeds the process. Machine weighs 34 lb. Price $423.50 *American Photocopy Equipment Co., Dept. RA, 2100 W. Dempster St., Evanston, Ill.*



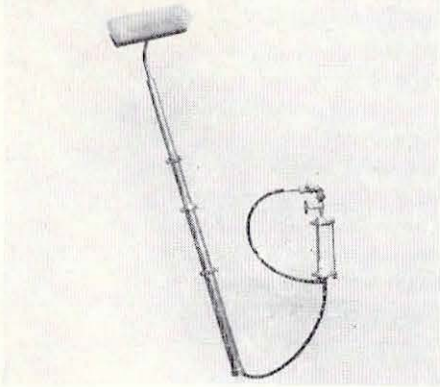
Cable Splice Compound

Semper-Seal is a new epoxy-type resin for use in splicing and plugging signal, communication, and electric power cables. It is a clear, two part compound consisting of a resin and a hardener which, when mixed together, create a thermosetting action. In 30 to 45 minutes it becomes a solid, clear, air-tight seal. The kit consists of the resin, hardener, plastic mold, mixing container, mixing paddle. *C&S Products Co., Dept. RA, Windsor Locks, Conn.*



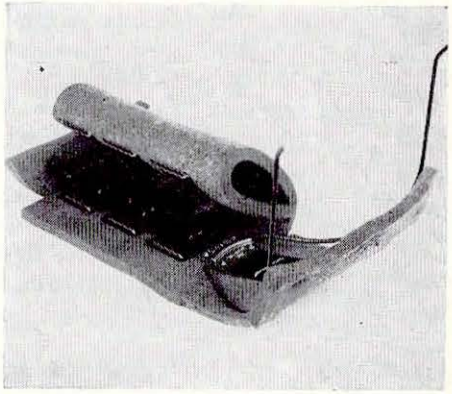
Portable Vacuum Cleaner

The Vac-U-Max Port-A-Pac 707, adapted for general cleaning applications in railroad cars, airplanes, etc., where maximum portability is required, can be hand carried, strapped to the back, pulled along the floor on its runners or hung to a fixture. It weighs only 17½ lb; has 1-cu-ft capacity, and is air operated. Being non-electric, with no moving parts, it can be operated even in hazardous locations. *Vac-U-Max, Dept. RA, Belleville 9, N.J.*



Window Washer

The Model 6½ window washer with telescopic handle allows operator on ground to wash shop windows at heights up to 66 ft. A reduction in handle length permits use on passenger cars as well as station facilities. A dispenser for compressed detergent tablets, which are said to last one-half day of continuous washing, is available with the washer. *Tucker Manufacturing Co., Dept. RA, 112 Fourth Ave., S.E., Cedar Rapids, Iowa.*



Journal Lubricator

The Accurate journal lubricator features a lid seal, fillet oil seal and wire securement. The lid seal prevents dirt from entering the journal box, and the oil seal lubricates fillet of journal and prevents loss of oil from rear of box. The wire securement is said to prevent shifting of lubricator under impact. The device is AAR approved for test application in interchange. *Fullo Corp., Dept. RA, 2610 Eastwood Ave., Chicago 25.*

These two photos show a portion of each side of a 50-ton coal car rebuilt in 1951 by the Norfolk & Western Railway. One side is copper steel, the other is USS COR-TEN High-Strength Low-Alloy Steel.

Which hopper is older?

Actually, they're both the same age because they're both part of the same car, despite the weathered appearance of the hopper end and car side shown in the bottom photo. It is copper steel and shows at least 50% more corrosion than the USS COR-TEN hopper end and side sheet shown in the top photo.

In 1951 the Norfolk & Western Railway rebuilt the bodies of 20 old hopper cars; and, to make sure that the material was subjected to exactly the same service, they built one side of each car of copper steel and the other side of COR-TEN steel. This test was undertaken to prove to themselves how they could make their hopper cars last longer. After seven years, the cars were carefully checked for both corrosion losses and paint adherence. In actual service and in every type of atmosphere, the test results proved then, and certainly more so today, that COR-TEN steel retained paint longer and lost considerably less from corrosion than copper steel.

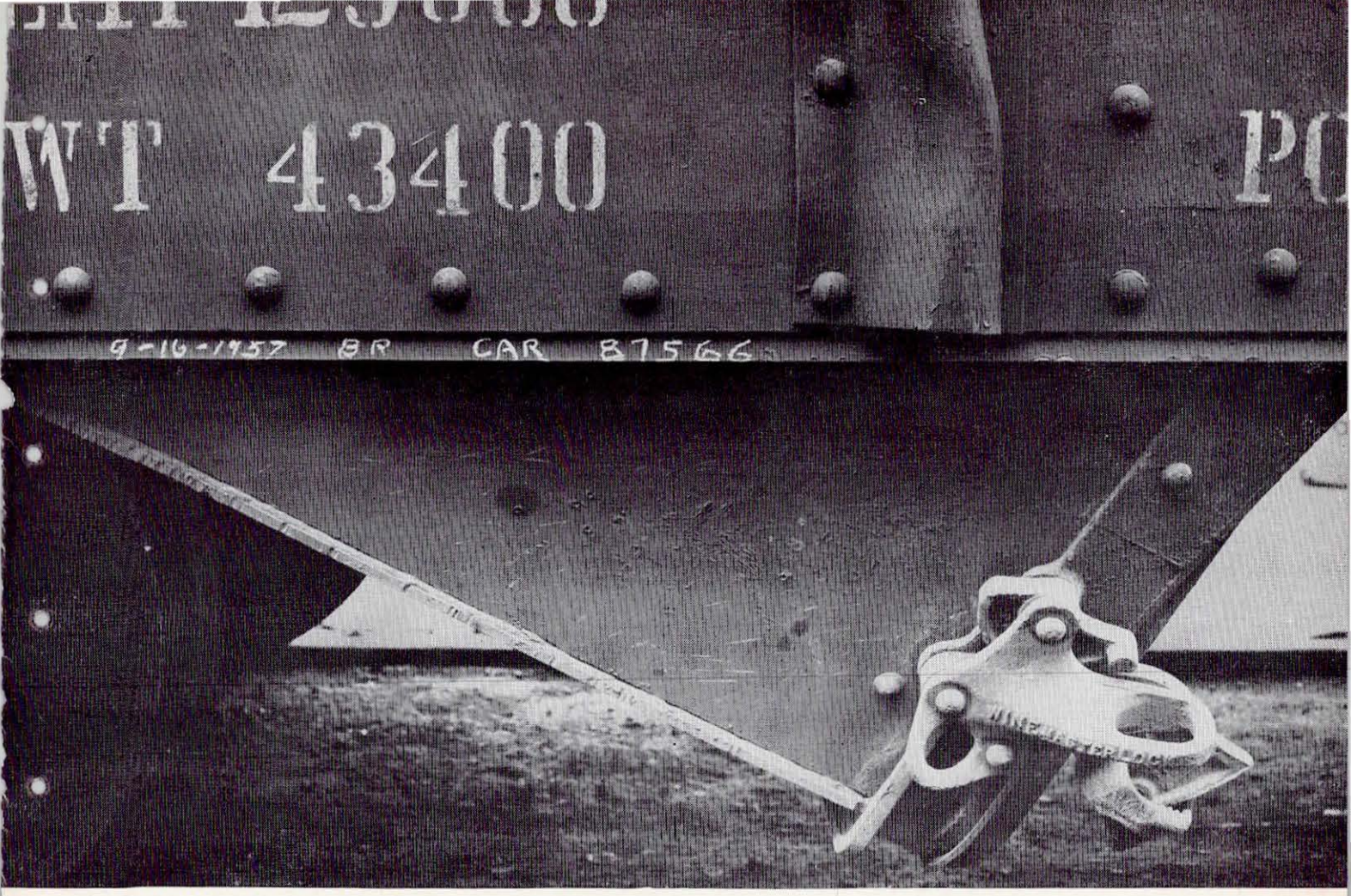
Such is the case in many kinds of equipment, whether they be railroad cars, earthmovers, or a stationary application like electrical transmission towers. In rural, industrial or salty seashore atmosphere, USS COR-TEN steel resists corrosion better (4 to 6 times), and retains paint longer than ordinary carbon or copper steels. Expensive painting bills are drastically reduced.

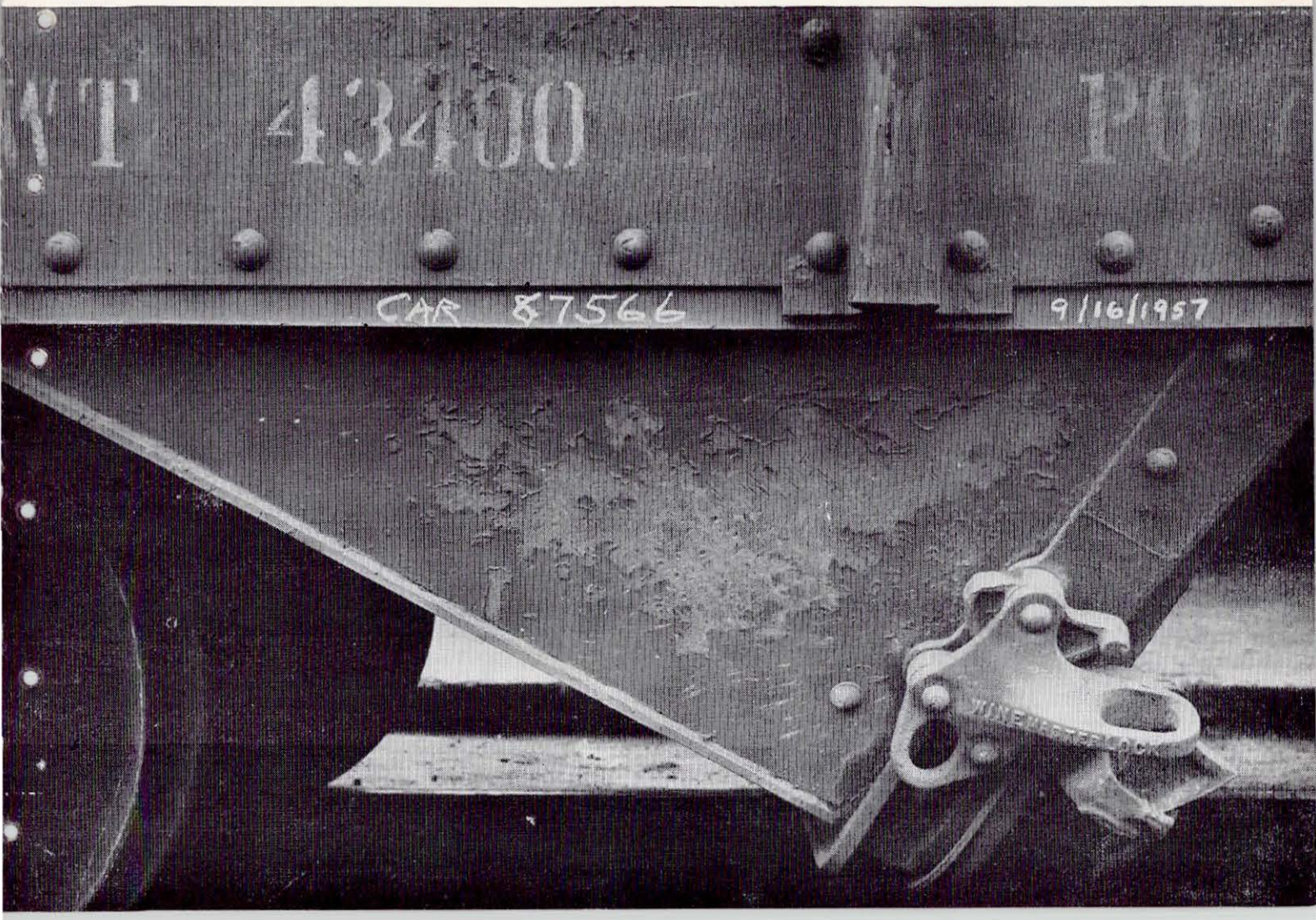
You save other ways, too: USS COR-TEN steel is stronger, so whatever you build can be thinner and lighter, carry or hold more, cost less, day-to-day, in the long run. For more information, contact our nearest sales office or write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS and COR-TEN are registered trademarks

United States Steel Corporation—Pittsburgh
American Steel & Wire—Cleveland
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

United States Steel


WT 43400
9-16-1957 BR CAR 87566


WT 43400
CAR 87566 9/16/1957

cluded that each car, if built of stainless steel, would save $353.80 annually. Of this amount, $122.80 was attributed to a reduction in tractive power costs due to a 3,400-lb weight savings, $165.00 to car-body maintenance, and $66.00 to repainting costs. Amortizing increased original cost out of savings over a 35-year period at 3½% would permit, Budd concluded, an increase in original investment of $7,076.

The interest in lighter weight cars, capable of hauling heavier payloads, was a primary reason for the development of low-alloy high-strength steels for railroad applications; more recently, this was a factor also in the Southern Railway's decision to acquire 100-ton aluminum cars. Along with lighter weight, however, railroads have demanded more corrosion-resistant metal. Thinner section steels, for example, that would produce a normal service life.

How LAHT Steels Perform

One of these steels, developed with this requirement in mind, was United States Steel's Cor-Ten. Service tests have demonstrated that this steel will last from 1½ to 2 times as long in coal-carrying hopper cars as copper steel of the same thickness. This steel, like others in its class, has permitted a substantial reduction in both freight and passenger car weights; it has pointed up the fact that development of corrosion-resistant metals can be obtained along with other objectives.

Typical of what low-alloy high-strength steels can do is the experience of the Virginian with 1,000 hopper cars built in 1947. Constructed with USS Cor-Ten in all body sheets contacting the lading, these cars had 3/16-in. side sheets and 5/16-in. floor sheets. After eight years' service, an inspection showed the cars to be in good condition. After 10½ years, when the road had budgeted for a major rebuild job, the cars were still found to be in good condition. The rebuilding program was postponed for three to five years.

Several years ago the savings made in these cars by the use of Cor-Ten steel was determined to be $875, against an increase in cost of $275. This $600 savings is now estimated to be greater because the price of this steel has not increased as much as the carbuilding and repair costs.

The nickel-copper-chrome steels, like Youngstown's Yoloy E, are highly corrosion-resistant. In service tests made several years ago a Youngstown nickel-copper steel with two per cent nickel indicated a 20-year service life in hopper car service without significant patching. This performance was twice that of carbon steel, 50% better than copper bearing steel. Youngstown Sheet and Tube Co. reports that its Yoloy E steels with only .50 to 1.00% nickel, but with chrome added, are equally as resistant to corrosion.

The recent 1,205 aluminum cars ordered by the Southern focuses attention on aluminum as a light-weight corrosion resistant material for car construction. This order represents the first large-scale use of aluminum, but aluminum test cars, built years ago, demonstrate the material's ability to resist corrosion.

As an example, the Great Northern built a box car in 1944 with aluminum roofing, running boards, sides, ends, side doors, floor protection plates and brake steps. The last complete inspection of this car, made in 1958 or after 14 years of service, showed all aluminum parts to be in good condition.

Last fall, 34 of the 59 aluminum gondola cars used in Kaiser's Jamaica operations were inspected. Although only three to four years old and carrying a non-corrosive lading, they do operate in a tropical marine atmosphere. The inspection showed no corrosion whatever, even in the areas where hot-driven steel rivets attached the aluminum body to the steel underframe.

Tank car bodies and many car parts have been fabricated of aluminum. In all of these applications probably none has been subjected to a more corrosive environment than the aluminum brine tanks in Canadian refrigerator cars; it is much like that found in marine service. The use of this material was so successful in this service that by mid-1959 about 2,300 CPR and CNR cars had been equipped with aluminum brine tanks.

The adoption of aluminum for these tanks led to consideration and application of this metal for other refrigerator car items, such as inner framework, flue and floor sheets, and hatches. Service experience with these car parts, and even with complete car bodies and underframes, has demonstrated aluminum's value in reducing corrosion costs. On reduction in maintenance costs alone it is claimed that the added first cost is considerably less than the average repair costs at the first major shopping.

Coatings Are Versatile

Coatings do a fine job in protecting basic metals. A wide variety is being used today, even as the search goes on for materials that are both tough enough to withstand abuse and cheap enough to attract railroads concerned with initial cost.

One eastern road applies a coating, basically asphalt with a filler, to the interior of all new and rebuilt hopper and gondola cars. The product, used with water emulsions or petroleum thinners, is easy to apply and economical. When applied with a uniform thickness of around 20 mils the coating protects these open-top car interiors for about a year. The road figures that this coating adds a year's life to the car.

Yet, at the same time, the road has been searching for a material that would protect for several years, so interiors could be recoated at the same time ex-

Why C&IM Paints Gondolas

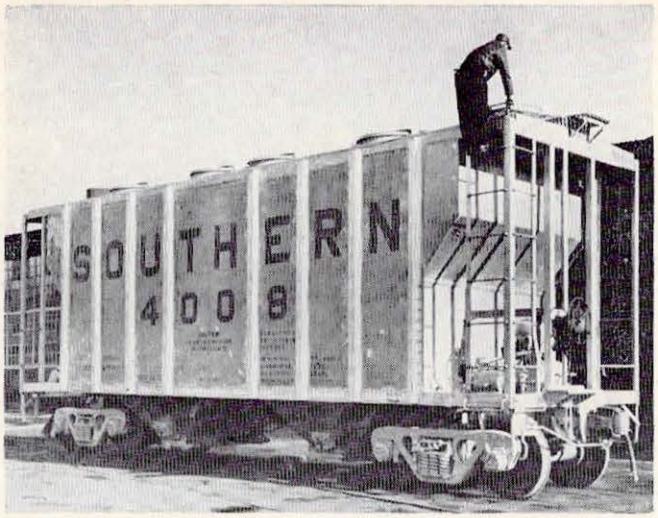
The Chicago & Illinois Midland continues to paint the interior of 70-ton gondola cars, as a result of test paint applications to gondola interiors made in 1952.

These initial tests produced favorable results and a program for painting gondolas began two years later. That program has been carried through every two years on 239 cars (RA, Jan. 24, 1955, p. 33; Dec. 15, 1958, p. 26).

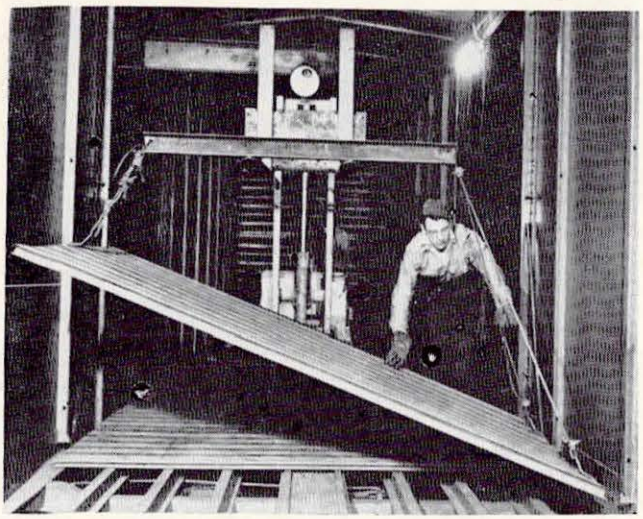
This year, 70 gons are being rebuilt with new steel and the interiors are being painted with Sherwin-Williams Gripclad primer cold spray and Carclad hot spray.

The C&IM figures its painting program pays off in longer car life. Savings are calculated like this:

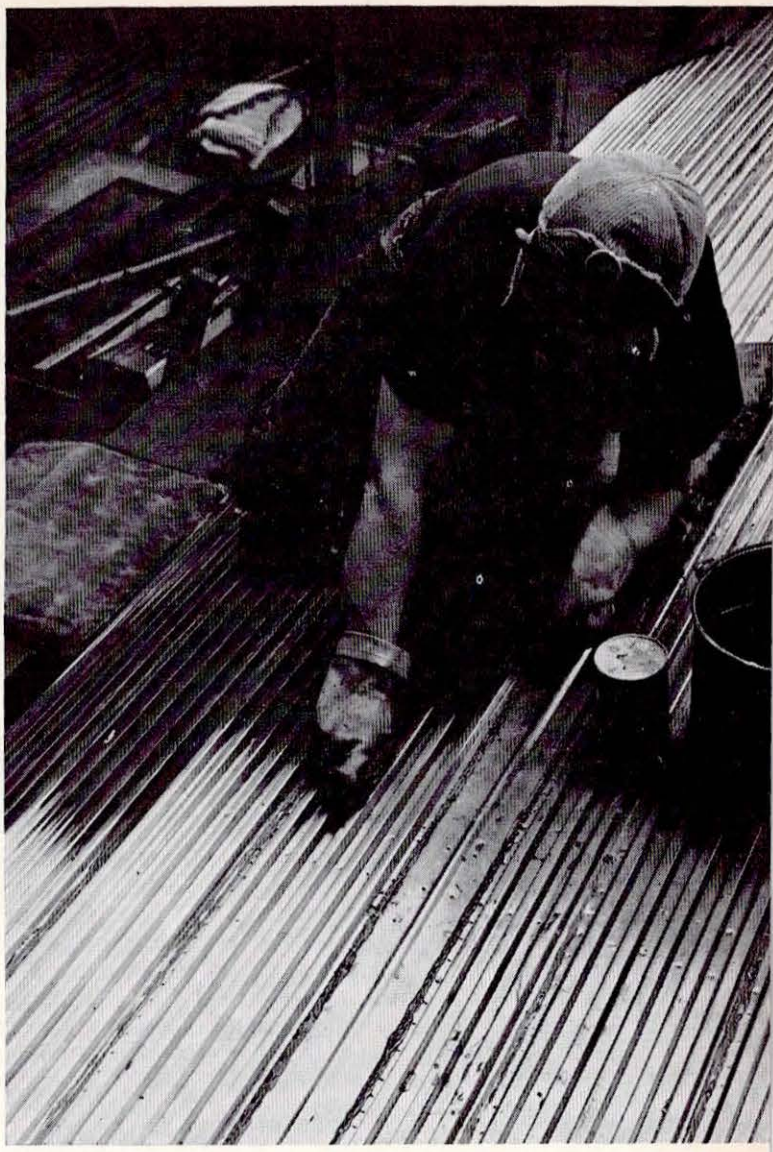
Gondola side and floor sheets normally last about 13 years and cost approximately $3,460 per car set. That's $266 per year on a 13-year car life. An application of new paint for one car interior costs $127 and lasts two years—a cost of approximately $63 per year. The road estimates each painting adds two years, or $532, to life of sheets.



CORROSION-RESISTANT ALUMINUM works for the Southern. Road has acquired 1,205 cars built of this metal.



PANELS OF USS COR-TEN nailable flooring are placed in box car. Such steels are light weight, resist rust.



STAINLESS-STEEL CARS, like the Reading's "Crusader" equipment, still gleam like new after cleaning.

teriors are repainted. Tests have been made of such products as neoprene, vinyls, epoxies and many different asphaltic compounds. To date, while the search goes on, the asphaltic type materials are the only products economical enough to use for this application.

Another eastern road also sprays an asphaltum compound on box car side sills, side posts and side sheets to a point two feet above the floor line. This coating alleviates the corrosive effect of moisture that accumulates between the wooden floor border and the grain strip. The road applies this compound on the top surfaces of underframe members of cars equipped with wood floors to prevent corrosion caused by the moisture retained in the flooring.

One western road reports that for new freight cars an undercoat of car cement is applied with red lead at joints. Then, one coat of zinc chromate primer is followed by two coats of finish, generally hot spray, on sides and ends. On the rip track where most cars are painted, sand blasting is done first and a cold spray paint is used.

Open type hopper cars on another western road are sprayed with red lead. Before the lead dries, the surface is covered with sand. When thoroughly dry, two coats of regular paint are applied.

Preparation Is Important

A tank car company notes that its corrosion problems are internal and external, with the severity depending upon the commodity carried. For example, a recently-examined tank car in lube oil service was in excellent condition and probably would run many more years without attention.

This company has a wide choice of materials or linings but there is a never-ending search for the most economical and effective ones. Stainless steel tanks are generally considered too costly. On the other hand, carbon steel with plastic coating, rubber lining or stainless steel coatings are satisfactory.

The company stresses the importance of surface preparation, this being a fundamental factor in how long paint will last. Grit blasting is used and a thorough job is done, getting down to bare metal for proper adhesion of the paint to follow. In normal service, an alkyd paint is used, either with spray or airless spray methods. The latter is considered more economical because less spray is wasted. Cars in acid service have special exterior coatings to protect against spillage, vapors and presence of cars in plants where they are exposed to adverse atmospheric conditions. While this company quotes a figure of seven years as the life of a paint system, it varies so much, depending on the commodity carried, that it

can be misleading.

A third western road has a special problem in hauling silica sand in covered hoppers, the sand being used for glass making where contamination makes it useless. Coatings, easily abraded from the interior by the sand movement, are not used. An uncoated interior, cleaned dry and blown out by air, is the solution. This road used a direct-to-metal asphaltic paint, fish-oil base, which is sprayed on hoppers, gondolas and box cars. One coat with no primer or finish coat is required.

This same road also uses a chemical stripper for passenger cars. This is a hot caustic, applied at 180 deg. The material is sprayed on, rinsed off, the car is dried and the usual primer followed by one finish coat. A good zinc chromate primer, according to this road, is a necessity in paint application. The metal, properly prepared, then coated, followed by one or two coats of good paint, will give maximum protection.

A car line has a three to four-year painting cycle on steel reefers, partly due to public appearance, which it considers important. Depending on the condition of a car coming into the shop it may not coat underframes. Spot sand blasting is done depending on condition of sheets. The line has found that cars in the same age group show varying degrees of corrosion, possibly due to faulty preparation of sheets before painting.

This matter of proper surface preparation is the most important requirement in applying a protective coating, according to a car builder. The metal must be thoroughly sand or shot blasted to give anchorage. The better the adhesion, the longer the coat lasts. Epoxy materials, amine type, have a fraction of a molecule that combats corrosion. These materials can be used as primers and top coats. Three types of materials are used. Vinolyte (lacquer) is used on closed hoppers, inside and out. Epoxies and urethanes are the newest and latest types of coatings. Freight cars are prepared by a phosphate cleaner, followed by steam cleaning, one coat primer, and one coat of alkyd paint.

Bridges, Buildings and Signals

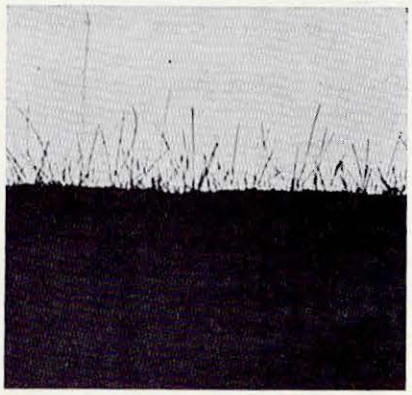
Protective coatings are available for almost every conceivable surface and condition found in railway buildings and structures. There are paints for coating metals, wood and masonry. There are fast-drying, slow-drying, water-resistant, heat-resistant, fire-retardant and chemical-resistant paints. Some paints give best protection for underground use. Others are recommended for interiors or exteriors, for sea-water or fresh-water immersion, for high- or low-humidity locations, or for acid or alkali conditions. Still others contain rust inhibitors, fish-oil rust penetrants, asphalt, petroleum oils, bitumens or cement.

Paint manufacturers are constantly engaged in research to improve their products. They have already progressed to the point where the buyer need only name the conditions under which the paint is to be used and the manufacturer can produce a formula which will serve best.

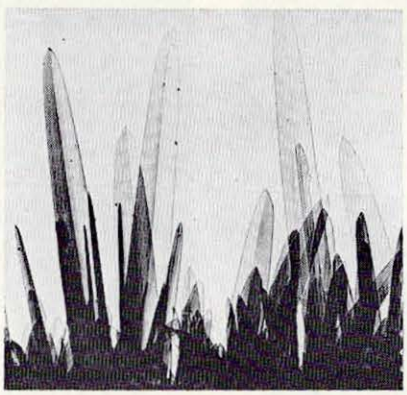
Bridge engineers have found that optimum results, so far as durable protection is concerned, are obtained when a complete painting system is used. This includes the method of surface cleaning and pre-treatment, as well as the kind and number of primer, intermediate and finish coats.

Knowledge of such painting systems is available through manuals issued by

Hydrogen Ions Cited in New Corrosion Theory



In dry oxygen, oxide whiskers. . .



In water vapor, large platelets.

Are hydrogen ions the cause of corrosion of iron? Such a theory has been advanced by Westinghouse Research Laboratories, along with an estimate which puts the cost of iron rusting at more than $6 billion annually in the U.S. alone.

Up to now, according to Westinghouse scientists, iron corrosion has been assumed to be an electrochemical reaction.

Two Westinghouse researchers, Dr. E. A. Gulbrausen and T. P. Copan, questioned this theory. In controlled experiments they eliminated conditions required for electrochemical reactions and reduced the complex rusting of iron to its simplest atomic processes.

Pure iron wires, about the size of fine sewing thread, were reacted with oxygen and water vapor at 835 deg F. Results of the minute-scale corrosion were then studied under an electron microscope with magnification up to 300,000 times actual size.

When reacted with dry oxygen the iron formed a protective oxide coating. From this coating grew billions of tiny round oxide whiskers less than one-millionth of an inch in diameter and 30-millionths of an inch high. Each whisker grew from a single specific growth site, like seeds sprout from the ground into single plant stems.

When water vapor was substituted for the dry oxygen atmosphere the moisture produced a startling change in the oxide surface. Thin, pointed, blade-shaped platelets of iron oxide erupted from the growth sites. They spread more than 50 times the area covered by the growth sites of dry oxygen—representing 250 times the amount of rust.

The experiments showed one part of water vapor in 200 parts of dry oxygen atmosphere will cause the blade-shaped crystals to form. At room temperature this corresponds to 3% relative humidity.

Conclusions: The hydrogen ions in water vapor enlarge the areas of chemical reaction between the oxygen and the iron, bringing about greatly increased corrosion. At the lower temperatures at which iron usually rusts, this basic reaction is masked.

Possible control: In addition to guarding against electrochemical effects to prevent corrosion these added measures must be considered: (1) prevent the hydrogen from entering the metal, and (2) inhibit growth of localized reaction sites by addition of suitable alloying elements to the iron.

PAINT-SPRAY EQUIPMENT, powered staging, produced substantial savings in recoating this C&NW viaduct.

the Steel Structures Painting Council, of which the AAR is a sponsor. If, for example, the structure to be painted is a bridge subject to brine drippings in a rural atmosphere, reference to a Paint Guide System in the manuals gives several complete systems known to be suitable for those conditions.

In general, bridge and building engineers are waiting until tests now under way by the SSPC in cooperation with four railroads have lasted long enough to warrant firm conclusions. While many are conducting tests of their own with the newer paint formulations and materials, they cling, for the most part, to tried and tested coatings until they can be shown the economies, if any, of making a change. Currently popular, however, particularly for bridges in brine territory, is a greaselike coating which effects considerable savings on surface preparation and is said to adhere well to old paint.

A spot survey of signal department painting habits reveals that most roads paint before rust starts. About half of those surveyed paint every two or three years; the remainder when required.

Most roads use aluminum paint on signal masts, switch machines, switch circuit controllers, relay cases and housings, highway flashing light signals, cable boxes and radio equipment housings. Signal hoods and backgrounds are painted flat black to prevent phantom indications.

Opinion favors aluminum where indicated because it maintains its appearance longer than other paints. Tests on one road showed that case and housing interiors painted with aluminum maintain an interior temperature up to 18 deg F less in extreme hot weather than those painted a dark color. This reduces chances of condensation.

One road that uses black for signal equipment reports that it shows the least discoloration and a minimum of reflectorization. Another finds it the most practical color for outside finish along the right-of-way where it is subject to adverse effects of dirt and moisture. This road, however, uses aluminum on interiors of switch machines, circuit controllers and instrument housings.

"LONG-LIFE EXPECTANCY" was one of the C&O's reasons for installing A. M. Byers wrought iron deck plates in this bridge near Muskegon, Mich.

People in the News

ALASKA.—Don J. Smith, superintendent, Southern division, Rock Island, El Reno, Okla., named general manager, Alaska, effective Sept. 1, to replace **Robert H. Anderson,** who returns to his former position as general superintendent of transportation, RI, Chicago.

ANN ARBOR—MANISTIQUE & LAKE SUPERIOR.—On Aug. 1, the traffic department transferred from Toledo, Ohio, to Railway Exchange Bldg., St. Louis, Mo. **R. L. Fehlber** is traffic manager and **G. J. Bradner** is assistant traffic manager.

ASSOCIATION OF WESTERN RAILWAYS.—Harold M. Sims, director of public relations, Chicago, retired Aug. 31 under the Association's pension plan. He plans to continue active in public relations work.

BALTIMORE & OHIO.—Peter W. Nutley, division freight agent, Dayton, Ohio, appointed assistant general freight agent, New York. **Patrick L. Mehlick,** district freight representative, Milwaukee, Wis., succeeds Mr. Nutley at Dayton. **Frank L. Skinner, Jr.,** freight representative, traffic department, New York, named district freight agent there. **Thomas E. Hotrum,** traveling freight agent, appointed Canadian traffic agent, Toronto, Ont., succeeding the late **Gordon D. Brown.**

Alexander G. Milkton, designing engineer of buildings, Baltimore, retired.

CANADIAN NATIONAL.—J. M. Pelletier, operation trainee, Campbellton, N.B., appointed trainmaster, Fredericton, N.B., succeeding **A. R. MacInnis,** transferred to Sydney, N.S.

CHESAPEAKE & OHIO.—H. W. Blank, division freight agent, Richmond, Va., appointed assistant freight traffic manager, Chicago. **William L. Bailey,** general agent, Birmingham, Ala., succeeds Mr. Blank. **Henry F. Ulmer, Jr.** succeeds Mr. Bailey. **Peter D. DeHamer** appointed division freight agent, Grand Rapids, Mich., succeeding **Leo W. Wood,** who retired Aug. 31.

CHICAGO & EASTERN ILLINOIS.—D. F. Woods, general freight sales manager, Chicago, retired Aug. 31.

CHICAGO & NORTH WESTERN.—Leonard H. Meline, district sales agent, Los Angeles, appointed general agent, Sacramento, Calif., succeeding **E. M. Dunning,** retired.

COTTON BELT.—R. O. Garrison, general agent, Dallas, Tex., retired Aug. 31.

ELGIN, JOLIET & EASTERN.—G. L. Gaumond elected assistant secretary and assistant treasurer.

FORT WORTH & DENVER.—W. S. Johnston, assistant division superintendent, **Burlington,** North La Crosse, Wis., appointed superintendent, Amarillo division, FW&D, Amarillo, Tex., succeeding **H. W. Totten,** transferred.

GREAT NORTHERN.—Vernon W. Bice, trainmaster, Glasgow, Mont., transferred to Great Falls, Mont., to succeed **Albert E. Carr,** retired. **Davis S. Nelson,** general yardmaster, Interbay, Wash., replaces Mr. Bice.

LONG ISLAND.—Kenneth S. Niemond, mechanical engineer, appointed assistant manager of research, Jamaica, N. Y.

LOUISVILLE & NASHVILLE.—Louis R. Worley appointed district passenger agent, Louisville, Ky., to succeed **James C. McCloy,** who retired Sept. 1.

Harold E. Rafferty appointed freight traffic agent, Indianapolis, Ind.

MISSOURI-KANSAS-TEXAS.—Charles S. Poston, sales manager, Minneapolis, and **Howard A. Speck,** sales manager, Philadelphia, retired Aug. 31. Mr. Poston's successor is **Jerry M. Sheridan. Thomas F. Cermack** replaces Mr. Speck.

MISSOURI PACIFIC.—Effective Sept. 1, **Harry D. Freivogel,** general agent, Sacramento, Calif., transferred to Dallas, Tex., succeeding **Joseph H. Long** (RA, Aug. 22, p. 33). **Raymond C. Kozlow,** commercial agent, Memphis, Tenn., named to succeed Mr. Freivogel.

NEW YORK CENTRAL.—John Stang, division engineer, Western district, Chicago, transferred to the Canada division, St. Thomas, Ont., succeeding **J. C. Houston,** transferred.

NICKEL PLATE.—Melvin J. Bickel, terminal superintendent, Cleveland, Ohio, appointed superintendent, Wheeling & Lake Erie district, Brewster, Ohio, succeeding **Glen W. Mathews,** transferred to the Clover Leaf district, Frankfort, Ind. **George G. Crews,** assistant superintendent, Lake Erie & Western district, Muncie, Ind., succeeds Mr. Bickel.

NORFOLK SOUTHERN.—W. T. Liverman, Jr., appointed to the newly created position of director of purchases and stores, Norfolk, Va. **H. W. Ward** appointed purchasing agent, succeeding **J. S. Rodgers,** who retired Aug. 15 for reasons of health.

ROCK ISLAND.—Robert H. Anderson, general manager, Alaska, has returned to his former position as general superintendent of transportation, RI, Chicago. **Don J. Smith,** superintendent, Southern Division, RI, El Reno, Okla., replaces Mr. Anderson on the Alaska, and in turn is succeeded by **Clarence H. Gray,** acting superintendent, Missouri-Kansas division, Kansas City, Kan.

SOO LINE.—John B. Benson, assistant traffic manager, Minot, N.D., transferred to St. Paul, Minn. **Robert T. Nelson,** general agent, Los Angeles, named to succeed Mr. Benson, and in turn is replaced by **James F. Rice,** commercial agent, Minneapolis.

SOUTHERN.—Challen E. Caskie, general eastern freight agent, New York, appointed assistant freight traffic manager, Richmond, Va., succeeding **Ernest L. Brown,** retired.

SOUTHERN PACIFIC.—The following appointed trainmasters, SP Lines in Texas and Louisiana, effective Sept. 1: **J. A. Chihal,** Del Rio, Tex.; **R. E. Dipprey,** Beaumont; **J. T. McNally,** Austin; **R. G. McWhirter,** San Antonio; **P. F. Satterwhite,** Ennis, Tex.; **A. L. Springfield,** Hearne, Tex.; **C. T. Strong,** Lufkin, Tex.

G. del Valle, general agent, SP Lines in Texas and Louisiana, Monterrey, N. L., Mexico, transferred to Mexico City, succeeding **J. Pardo Vallina,** who retires Aug. 31. **Manuel Perez** named to succeed Mr. del Valle.

OBITUARY

Harry J. Midgette, 62, assistant to the president, **Seaboard Air Line,** died Aug. 27 at his home in Richmond, Va.

Howard J. Russell
Trailmobile

Larry L. Jones
Sparton

Supply Trade

Howard J. Russell has been appointed sales manager, railroad sales, **Trailmobile Inc.,** 200 South Michigan Avenue, Chicago. Mr. Russell was formerly district sales manager for **ACF Industries** at Washington, D.C. In his new post Mr. Russell will be in charge of Trailmobile's sales of trailers, containers and special equipment to the expanding railway piggyback and container market.

Larry L. Jones has been appointed to the newly created position of sales manager—trailers for the **Sparton Railway Equipment Division, Sparton Corp.,** Detroit, Mich. Mr. Jones was formerly administrative assistant to the division general manager.

Flannery Products Corp., Bayonne, N.J., has appointed the following personnel to handle company sales on a regional basis: **William E. Evans,** P.O. Box 11488, Pittsburgh 38, Pa.; **Charles E. Barnes,** 74 New Montgomery St., San Francisco 5, Calif. and **Otto Bussenius,** 80 East Jackson Blvd., Chicago 4, Ill.

Construction will begin late this year on a new **Wyandotte Chemicals Corp.** plant in Scarborough Township, 9 miles northeast of downtown Toronto, Ont., Canada. Wyandotte will manufacture its complete line of **J. B. Ford Division** cleaning products at this Toronto plant, which will be served by the Canadian Pacific and will have immediate access to By-Pass 401 highway.

Lawrence A. Navarro has been promoted to manager of sales training, **Line Material Industries, McGraw-Edison Co.,** Milwaukee, Wis. **Clifford E. Shaw,** technical writer, promoted to technical editor, succeeding Mr. Navarro.

P. J. Hannaberry, former commissioner of the **Commonwealth Government Railways** of Australia, has been appointed transport director of the **Clyde Industries Group,** locomotive builders, Edgecliff, N.S.W.

Irwin S. Booth, export sales engineer, **General Railway Signal Co.,** Rochester, N.Y., has been appointed resident manager—Argentina for the GRS Trading Corp.

Gene P. Robers has been appointed general sales manager, Thermoid Division, **H. K. Porter Co., Inc.**

John E. Parsons joined **Stran-Steel Corp.** as assistant to the president on Aug. 15. Mr. Parsons was formerly assistant vice president, Associates Discount Corp.

John L. Salladin has been appointed sales manager, Industrial Computer Systems Department, **Radio Corp. of America.**

Lower Export Grain Rates Questioned

Some Southwestern and Western Trunk Line carriers have objected to a proposal to reduce rates on export grain moving from the Great Plains to West Coast ports. The present rate of 98.5 cents per hundredweight would be reduced to 81 cents per hundredweight under a shipper proposal approved by the executive committee of the Transcontinental Freight Bureau. Filing of tariffs has been postponed until hearings have been held on the objections filed by dissenting carriers.

Western farmers have been pushing for the reduction in export rates on hard wheat in the hope of capturing a larger share of the Japanese market. By gaining a rate reduction from the western carriers, producers hope to make American surplus grains competitive with those of other nations. The railroads see an opportunity to regain some of the grain traffic lost in recent years to truckers and to the barge lines.

Earlier this year, the Milwaukee and the Chicago & North Western filed independent tariffs reflecting a 17% reduction in grains destined for export via the St. Lawrence Seaway. Both roads cited truck and barge competition in defending their rate reductions before the ICC.

Following this move the KCS proposed a rate reduction on shipments of coarse grains originating at Missouri River points and destined for Gulf and Lake ports for export. The KCS proposal reduced the former 41 to 45 cents per-hundred-pounds rate to 32 cents. Joining the KCS in the rate reduction were the MP, GM&O, Frisco and MKT. Despite certain port and waterway protests the ICC permitted the rate to become effective Aug. 20. The GM&O and the IC also published similar reductions on shipments from Omaha to Gulf Ports.

Another grain rate reduction aimed at recapturing some of the traffic lost to trucks and barges was filed by some northwest carriers. Reductions of from 10% to 30% will become effective on Sept. 30 under tariffs filed with the ICC and the regulatory commissions of Washington, Idaho, Oregon and Montana. New rates are expected to provide northwest grain shippers with savings of nearly $7,000,000 in the current crop year on grain moving from interior points to northwest coast ports.

Railroading After Hours with Jim Lyne

PRAISE FOR SCANDINAVIA—I have another enthusiastic letter from historian Dick Overton about the quality of passenger service on the railways of Northern Europe. He is particularly loud in his praises of the Scandinavian lines—because of their extreme cleanliness, and modernity of equipment. With a simple menu in the dining car and pre-assigned sittings, he observed one waiter serving 40 people at a sitting; doing all the collecting too. The bill for a good lunch on the Stockholm-Oslo trip (including 10% tip in the bill) was $1.46. Coach seat reservations for a 10-hour trip cost 38¢, above the regular fare.

ST. LOUIS PERKING UP—I hear the Fred Harvey people are doing over the restaurant on the second floor of the St. Louis Union Station, and are going to reopen it September 16—just for special events at the outset, but later for regular customers if plans work out. Thousands and thousands of service men were served in this restaurant during the war years and, many years before that, it was a luxury-class eating place.

St. Louis station is unique of its kind—convenient and attractive (beautiful even) despite its mature years. Since the Harvey people know their business, it's mighty heartening that they see the persistent (and perhaps increasing) commercial appeal of this historic edifice.

BARGES' CRYING TOWEL—I see where the Transportation Association news digest reports a barge line officer to the effect that "a waterways toll system designed to recover only operation and maintenance costs would raise barge rates by 25% to 50%, and inclusion of capital costs of waterways improvements would raise them from 50 to 100%." Is that bad?

What this statement means is that you and I and other taxpayers are paying from one-third to a half of the transportation bills of the shippers who patronize the waterways. Personally, I'd rather see my taxes reduced by the amount I am contributing to the tills of the prosperous corporations that use the waterways—restoring to them the good old free-enterprise privilege of paying their own freight.

Raising such questions as these, I suppose, makes me a reactionary. If so, then I'm guilty. I'm so far behind the times that I even believe a waterway or a long-haul highway is just as much a business property as a railroad. And that its costs ought to be fully paid by customers—in the same way they pay for railroad service.

UNIONISTS—KEY TO FUTURE?—My job would be a lot harder than it is, except for scores of devoted railroaders (and others close to the industry) who pass along to me the benefit of their observation and study. One such dependable informant is a staff man at the ICC who has passed along many challenging ideas—one of the most emphatic being his belief that major improvement in the railroads' situation depends largely on a change in attitude of organized employees.

For this change to come about, employees must be brought to see how closely their own long-run welfare is tied up with the prosperity of the industry. "The real railroad problem, as I see it," he writes, "lies in convincing the union officer that he can tell his members the truth, without losing face or being eliminated from his job." Nobody wants to gamble a present advantage against a loss that is all too likely to come to pass. But if a union leader here and there could be led to see (what is actually true) that the status quo is becoming increasingly precarious *for him*, then maybe we'd get some revised action.

Freight Rate Increases Asked

► **The Story at a Glance: Higher railroad costs have resulted in a petition to the ICC for general freight rate increases. Affecting practically all commodities as well as special service charges, the increases requested are in flat amounts rather than in percentages of present rates.**

The railroads' three territorial rate associations—East, West and South—on August 31 petitioned the ICC for permission to file a tariff calling for general freight rate increases on practically all commodities, including charges for special and accessory services. The rate increases sought are noteworthy in two respects: (1) they are the smallest in amount, on the average, that the railroads have ever sought on a national basis; and (2) they are in all cases flat amounts, and not percentages of existing rates.

Meantime, the three rate association chairmen (T. H. Maguire, West; R. E. Boyle, Jr., South; and E. V. Hill, East) in a joint statement issued in Chicago August 31, following a meeting of chief traffic officers, assert that the present rate action "does not affect the railroads' long-term program of freight rate innovations and adjustments to make their service more successfully competitive for that part of the nation's freight traffic economically adapted to railroad movement. That program will go forward without interruption."

Basically what the railroads are asking for is an increase of ½¢ per 100 lb on all line-haul rates which are now 65¢ per 100 lb and less, and 1¢ per 100 lb on all rates which are more than 65¢. Where rates are quoted on a per-ton basis the increase is to be 10¢ per net ton and 11¢ per gross ton on rates of $13 and less; and 20¢ per net ton and 22¢ per gross ton on rates more than $13. On miscellaneous wood and chips, where rates are published per cord or per unit, the increase is to be 25¢ per cord or unit. Per-car rates are to rise $3 per car, except on fruit and vegetables ($2 per car) and miscellaneous wood and chips ($5 per car). Carload rates on automobiles in bi-level and tri-level cars are to go up $3 per carload for bi-level cars and $4 per carload for tri-level cars.

Rates for piggyback service of all kinds are to be increased in the same measure as rates on other freight. On coal the increase is to be 7¢ per net ton or 8¢ per gross ton. Lignite rates are to go up 4¢ per ton.

The plan includes numerous adjustments in charges for specific services, and in certain minimum charges. For example, the minimum line-haul charge per car is to be $60 on traffic originating or terminating in Official Territory. Elsewhere the minimum charge is to be $40. The minimum charge per less-than-carload shipment is to be $4.

Charges for so-called "split delivery" or for loading or unloading freight for transfer to other cars or highway vehicles (not including port charges for transfer to vessels) is to be increased $1 per ton.

To expedite unloading of specially equipped cars, where they are provided by the railroads, cars equipped with pneumatic devices for loading or unloading are to carry a charge of $10 per day where detained beyond the "free time" allowed in the tariff.

Moderate increases are provided for accessorial services such as "transit"; diversion and reconsignment; port terminal charges; inter-plant or intra-plant switching (but not switching immediately preceding or following a line-haul); and cleaning, sizing and mixing of bituminous coal in transit.

So-called "free time" on cars of freight in export or coastwise movement is to be reduced to 5 days (excluding Saturdays, Sundays and holidays—and this limitation does not apply to coal and coke).

Other moderate increases are to be made in charges for weighing or reweighing cars, for "trap" and "ferry" car service, for crane service, and for special services provided for livestock traffic (i.e., feeding and watering, cleaning cars, bedding and so on), and for the installation of grain doors.

Except at upper lake ports, charges for handling iron ore are to be increased 3¢ per ton (dock storage ore 7¢ per ton). Charges for dumping coal and coke for water handling—or from barge to car at river ports—are to be increased 2¢ per ton.

Joint interterritorial rates to Canada and Mexico are to be increased, parallel to those on traffic within the U.S. Steps will also be taken to bring about parallel increases on traffic handled on government account, and exempt from regulation under Section 22 of the Interstate Commerce Act.

CNR Goal: Decentralization

Far-flung Canadian National Railways are planning a switch from the "departmental" to a "business-unit" organization. Announcement of the change came from CNR Chairman and President Donald Gordon, after the road's directors approved the plan.

"Decentralizing authority and modernizing administrative techniques" were listed as the objectives CNR is seeking in making the change. Sales and operations functions, now separated, will be integrated at all levels of administration under the new organization.

CNR now has three regions, ten districts and 31 divisions. Under the new organization, there will be five regions, divided in turn into 18 "business units," which will have jurisdiction over all rail transportation activities in stipulated geographic areas.

One level of supervision will be eliminated in the new organizational structure. Also, setting up of area administrations with authority for both sales and operations will localize the function of making management decisions.

"The reorganization follows two years of intensive study of railway operations and administrations," Mr. Gordon said in announcing the change.

The new organization "reflects the far-reaching changes which have taken place in both the transportation market and the technology of transportation," Mr. Gordon added, citing specifically on the marketing side, "the growth in transportation services offered by pipelines, highway transport, commercial airlines and ships," as factors making necessary "new sales techniques and greater flexibility in meeting the demands of competition."

Specific changes will divide the present Central Region, which includes nearly all of Ontario and Quebec, into two regions: the St. Lawrence, with headquarters at Montreal, and the Great Lakes, with headquarters at Toronto. The Western Region, which now includes all territory from the western end of the Great Lakes to the Pacific, will also be split into two regions: the Prairie, with headquarters at Winnipeg, and the Mountain, with headquarters at Edmonton. The present Atlantic region, with head quarters at Moncton, will remain substantially the same.

MARKET OUTLOOK *at a glance*

Carloadings Drop 0.3% Below Previous Week's

Loadings of revenue freight in the week ended Aug. 27 totaled 594,770 cars, the Association of American Railroads announced on Sept. 1. This was a decrease of 1,569 cars, or 0.3%, compared with the previous week; an increase of 45,893 cars, or 8.4%, compared with the corresponding week last year; and a decrease of 51,456 cars, or 8.0%, compared with the equivalent 1958 week.

Loadings of revenue freight for the week ended Aug. 20 totaled 596,339 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Aug. 20

District	1960	1959	1958
Eastern	82,039	76,073	87,032
Allegheny	93,208	77,774	107,519
Pocahontas	50,527	46,815	52,527
Southern	108,258	111,894	112,453
Northwestern	107,989	69,709	104,434
Central Western	108,561	110,155	120,992
Southwestern	45,757	50,066	49,274
Total Western Districts	262,307	229,930	274,700
Total All Roads	596,339	542,486	634,231
Commodities:			
Grain and grain products	57,962	51,080	57,712
Livestock	3,817	5,489	5,274
Coal	106,747	97,254	113,479
Coke	5,636	2,958	5,967
Forest Products	41,161	42,127	38,884
Ore	55,941	10,707	54,890
Merchandise l.c.l.	34,982	41,761	49,367
Miscellaneous	290,093	291,110	308,658
Aug. 20	596,339	542,486	634,231
Aug. 13	599,908	544,569	626,314
Aug. 6	594,329	532,259	619,204
July 30	614,236	544,862	622,678
July 23	619,784	536,395	608,065
Cumulative total, 33 weeks	19,777,758	20,106,345	18,476,479

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Aug. 20 totaled 10,806 cars, compared with 8,072 for the corresponding 1959 week. Loadings for 1960 up to Aug. 20 totaled 348,514 cars, compared with 257,216 for the corresponding period of 1959.

IN CANADA—Carloadings for the seven-day period ended Aug. 14 totaled 73,875 cars, compared with 67,702 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Aug. 14, 1960	73,875	23,893
Aug. 14, 1959	78,668	24,194
Cumulative Totals		
Aug. 14, 1960	2,254,868	889,976
Aug. 14, 1959	2,339,444	878,602

New Equipment

PASSENGER-TRAIN CARS

► *New York City Transit Authority.*—Has signed contracts with the St. Louis Car Co. for 260 new subway cars to cost $32,100,000. All cars will be coupled in "married pairs" (with motorman's cab at only one end of each car). Cars will be of the BMT-IND type (similar to 230 cars ordered in 1959) and will be used chiefly to replace 35- and 40-year-old cars now operating on the BMT division. Delivery is to begin in eight months and to be completed in 22 months. On Sept. 20, St. Louis Car Co. will begin delivery of the first five cars of the 230-car order signed last September (RA, Sept. 14, 1959, p. 52).

FOREIGN

► *Argentine State Railways.*—Requested bids on the supply of the following equipment: 100 diesel-electric or diesel-hydraulic locomotives (Sept 14); 192 diesel-electric or diesel-mechanical cranes (Sept. 16); 10 wrecking trains (Sept. 20); 10 diesel-electric locomotives for passenger and freight service (Sept. 26); 3,000 cars of "different types and gages" (Sept. 29); 300 passenger cars (Sept. 30). Bids are to be submitted on dates listed. Further information may be obtained from the Bureau of Foreign Commerce, U.S. Department of Commerce, Washington, D.C.

Maintenance Expenditures

► *Down 5.7% in June.*—Expenditures by Class I roads for maintenance of equipment, way and structures in June were down about $15.5 million, compared to the same month in 1959, according to report of AAR Bureau of Railway Economics summarized below:

	June 1960	June 1959	% Change
Maintenance of Way and Structures	$108,244,500	$116,520,910	—7.1
Maintenance of equipment	150,201,461	157,403,036	—4.6
Totals	258,445,961	273,923,946	—5.7

New Facilities

► *Boston Metropolitan Transit Authority.*—Ordered automatic signaling equipment from Union Switch & Signal for installation on its 10-mile Newton-Highland Branch line.

► *Canadian National.*—Work is nearing completion on a new $300,000 trestle and siding at St. John. The 550-ft trestle provides access to 1,650 ft of double track on the harbor side of Pugsley Wharf.

► *Queensland Railways.*—Has signed a contract for $5,200,000 with Ford, Bacon & Davis, a New York engineering and construction firm, to supply labor and ballast to re-lay 242 miles of track from Richmond to Duchess. Work is part of $70,000,000 rehabilitation of 750 miles of railways in North Queensland.

Letters from Readers

Opposes New-Fangled Rates

Washington, D. C.

To the Editor:

In my opinion, the rate-making proposal on your "Action Page" of August 8, 1960, in large measure disregards (a) the public interest, (b) Congressional policy, and (c) most of the standards of lawfulness in the Interstate Commerce Act.

Section 1 requires just and reasonable rates applied to just and reasonable *classifications* of property for rate-making purposes, and section 3 prohibits undue preference or advantage to "any particular description of traffic, in any respect whatsoever." As you know, comparable provisions appear in the other parts of the Act.

Any doubts about statutory requirements for reasonable classifications of property, other than on cost considerations, for *all* rate-making purposes—not just class rates—should be dispelled by a little choice reading, such as the Hoch-Smith Resolution (adopted January 30, 1925, and still in effect) and the analysis of that Resolution by the United States Supreme Court in the Ann Arbor case 281 U. S. 658. Also that same Court's decision in the B&O case, 345 U. S. 146, holding that so long as rates as a whole afford railroads just compensation for their overall service to the public, the Due Process Clause should not be construed as a bar to fixing noncompensatory rates for carrying some commodities when the public interest is thereby served.

Since the B&O case involved *maximum* reasonable rates that had been *prescribed* by the Commission, some people may question the wisdom of the Court's judgment concerning the Commission's power to prescribe maximum reasonable rates which are not compensatory, that is, less than properly determined out-of-pocket cost to the carrier of performing the particular service in question. But few if any impartial authorities, I suspect, will question the underlying philosophy which the Court there emphasized in justification of lower rates on vegetables than might be lawful on certain other kinds of freight, hand painted China for illustration.

Advocates of cost oriented rate making should make it clear that their proposal would mean a substantial modification, if not outright repeal, of most of the rate-making standards of the Act which, since the inception of regulation, have required other considerations other than cost, in determining lawful freight rates. As a matter of fact, most any substantial shipper whose distance to a common market is greater than his competitors' can explain the practical infirmities of cost oriented rate making.

In my judgment, most of the ills of the transportation industry would respond to a good dose of just and reasonable freight rates applied to just and reasonable classifications of property; and, more importantly, the public interest would be well served. The Commission has power to require such classifications. This presents difficulties but not of such dimensions as to justify scuttling practically all of the rate-making standards in the Act.

In some instances private and exempt carriage constitutes the big roadblock to lawful rate structures but the problem is not insurmountable, arguments to the contrary notwithstanding. Maybe —just as a suggestion—the time has come, for rate-making purposes, to separate the sheep (those who depend upon regulated carriage) from the goats (those who rely upon private or exempt carriage for some of their transport needs on given traffic). Such a separation could result in some interesting innovations in rate making.

Glenn L. Shinn
Examiner, ICC

(The editorial to which Mr. Shinn objects discussed rate making from the standpoint of economics—not from that of archaic legalism. To the degree that statutes, courts and regulators—as Mr. Shinn indicates— apply restrictions to railroads which prevent them from competing for traffic which they can handle economically—then the statutes, courts, and regulators are operating contrary to the public interest.

(We are optimistic enough to believe that regulated carriers, legislators, regulators and the courts will in due course deal with this situation in conformance to present-day realities. One of these realities is the fact that rapidly growing private and unregulated transportation recognizes no "classification" of freight except that of differences in cost of handling—including relative insurance risks.

("Value of service" is still a valid principle, but only to the extent that competition permits its effective operation. Railroad rates that do not attract the traffic railroads can handle economically are not justifiable in either ethics or economics. Law that thumbs its nose at ethics and economics should be amended or repealed.—Editor.)

NP-GN Merger Story

Minneapolis, Minn.

To the Editor:

I would like to commend you on the excellent article concerning the Northern Pacific-Great Northern unification in your July 25 issue.

Since we are the agency for the Northern Pacific, we're naturally very interested in this matter and have consequently read a great deal of reports, articles, etc., about the proposed merger.

I can honestly say that your story was one of the best I have seen because it pulled together many facts (for example, the workload immediately facing the ICC) and interpreted them to give the reader a better understanding of what the merger amounts to, the present status, and an indication of what is known now about how the combined railroad will be run.

A. N. Crist
Batten, Barton, Durstine & Osborn, Inc.

Airlift Lobby Called Illegal

Representative Cunningham, Republican of Nebraska, charges the Post Office Department with violation of law in giving postmasters and regional postal officials the assignment of lobbying against his bill to end the surface-mail airlift. That's the Post Office's seven-year-old "experiment" in flying four-cent mail.

The Cunningham bill passed the House before Congress adjourned for the national political conventions and it is now pending in the Senate. It would prohibit air-transportation of four-cent mail on routes where surface transportation facilities are adequate. The law cited by Mr. Cunningham is in an appropriation act which stipulates that no part of the Post Office's appropriation shall be used for "publicity or propaganda purposes designed to support or defeat legislation."

Mr. Cunningham told the House last week that "flagrant violations" of this law in various parts of the country have been brought to his attention. To support the charge, he put into the Congressional Record an editorial from the Franklin, N. H., Journal-Transcript. The editorial reported that the

postmaster of Tilton, N. H., had called to deliver a Post Office press release, which urged "all who are interested in providing quicker and better mail service" to communicate with their Senators "in opposition to the passage of the Cunningham bill."

Mr. Cunningham said he had called the matter to the attention of the Postmaster General. He added: "Unless the Postmaster General gives assurance that these illegal actions have been stopped, I will be compelled to refer this entire matter to the appropriate committees of Congress and the Department of Justice for further investigation."

AWR President Hits Competitor 'Interference'

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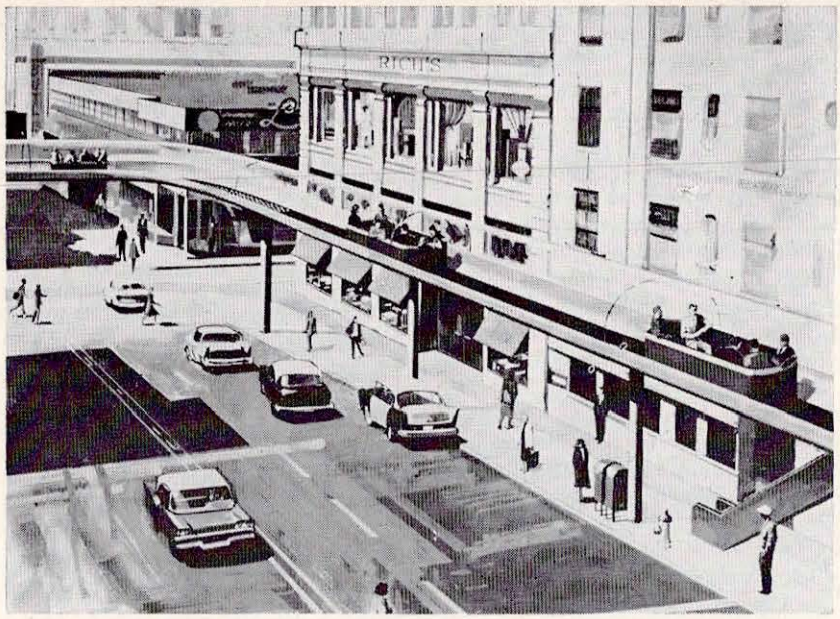

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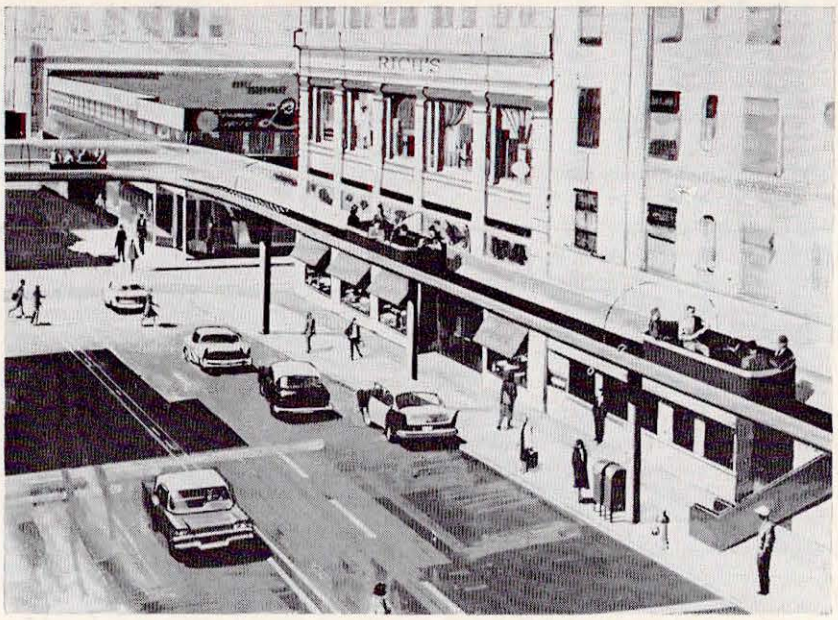

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B&O Has Own Merger Plan

► **The Story at a Glance: While one group of Swiss bankers stood firm on their original advice to Swiss holders of B&O shares in favor of the C&O, and another Swiss bank came out for the NYC, B&O's President Howard Simpson released details of a merger plan he said the B&O was ready to propose to its stockholders. In effect, the B&O position is that a three-way merger would be desirable to all concerned and that no conditions should be imposed "save that the terms be fair and equitable."**

The big three Swiss banks—Union Bank of Switzerland, Swiss Bank Corp. and Swiss Credit, which represent holdings of about 17% of B&O shares—are standing by their original advice to Swiss shareholders of B&O stock in favor of the Chesapeake & Ohio offer for the stock, according to J. J. Kurz, general manager of the Swiss Credit Bank. Swiss banks last week had been described as changing from "anti" to "neutral" so far as the New York Central offer is concerned (RA, Aug. 29, p. 7).

Meanwhile, a large private Swiss Bank—Bank Hoffman A. G. of Zurich —came out with a recommendation in favor of the New York Central. "New York Central stock may be expected to react more strongly to an improvement in the general railroad situation than C&O stock," the bank said in support of its recommendation.

And Baltimore & Ohio, the prize for which New York Central and Chesapeake & Ohio are competing, had some ideas of its own.

In a letter to every B&O employee, Howard E. Simpson, president of the road, explained his views of the events growing out of the proposed merger.

"The purpose of this letter is to report to you further about the proposal advanced by the Baltimore & Ohio for a three-way merger with the Chesapeake & Ohio and the New York Central," the Simpson letter began. "Your Board of Directors authorized me to initiate talks with the presidents of the other two roads, looking toward a solution of a serious problem—namely, that they are, in effect, bidding against each other for control of the B&O.

"On August 15, I met with Presidents Tuohy and Perlman, of the C&O and Central, respectively, and, although this meeting adjourned without agreement, I informed them that the B&O stands ready to propose to our stockholders a merger of the three companies that would result in a new corporation.

"Under the proposal, this new organization would be managed by a board of directors selected initially from the membership of the present boards of the three railroads, the same number being taken from each.

"The board thus formed would elect committees and officers without prior commitment to any present officer of the three companies.

"As to the apportionment of stock of the new corporation among present stockholders of the three companies, the B&O is willing to approve any demonstrably fair ratios of exchange acceptable to the C&O and NYC.

"In advancing this proposal, I restated the position of the B&O:

" 'A merger between the C&O, NYC and the B&O is in the interest of the security holders of the three companies and, imperatively, in the interest of the general public.'

"To facilitate such a merger, our management will impose no condition precedent, save that the terms be fair and equitable.

"It is clear that neither the three railroads nor the public interest will be advanced by the current struggle of the C&O and the Central for control of the B&O. As the late Joseph B. Eastman of the Interstate Commerce Commission observed: 'There are better ways of putting railroads together than by acquisitions of stock equities at high prices, coupled with an increased burden of debt.'

"The Commissioner urged that, where a union of two railroads' properties would benefit both, the directors of the two roads 'sit down together, agree upon the terms of the union, and submit a plan to the stockholder . . .'

"Mr. Eastman further advocated that such consolidation or merger be accomplished 'through an exchange of stock in appropriate ratio.' "

Mr. Simpson's letter went on to point out that any proposals to merge or affiliate railroad properties needed three sets of approvals—directors, stockholders and Interstate Commerce Commission—and that "proposals of this nature involve lengthy hearings and long periods of time."

"At the same time," Mr. Simpson said, "in our own interest, each of us would welcome the early accomplishment of any steps which will give us greater financial strength, improved competitive position, wider markets, increased efficiency and employment stability."

ICC Denies 'Corruption' Charge

Representative Harris, Democrat of Arkansas, chairman of the House's Special Subcommittee on Legislative Oversight, said last week that the subcommittee has information "indicating certain inefficiencies, irregularities, and even possible corruption," in connection with the ICC's regulation of "certain motor carrier certificates."

The Commission replied the following day with a statement saying: "Most emphatically, there has been no corruption on the part of the Commission and we have been unable to find any misconduct on the part of our staff." The statement was issued by Chairman John H. Winchell "on behalf of all the members of the Commission".

The subcommittee is a unit of the House Committee on Interstate and Foreign Commerce of which Mr. Harris is also chairman. It was created to check up on activities of regulatory bodies, including the ICC which are agencies of Congress.

Chairman Harris' statement was made at a public hearing at which the subcommittee had been only partially successful in obtaining company records from officers of two New York truckers — Interstate Dress Carriers, Inc., and Gold Star Freight Lines, Inc. The officers were Jack Lieberman, secretary and treasurer of Interstate, and Joseph Reznitsky, president of Gold Star.

Mr. Harris said the subcommittee's information indicated that Interstate had been guilty of several violations of the Interstate Commerce Act, including "illegal" acquisition of control of Gold Star. He also said the president of Interstate, A. Giddins, "is currently serving a sentence in a federal penitentiary," having been "convicted of procuring false testimony" in an ICC hearing involving Interstate.

The subcommittee chairman went on to charge that Interstate "has been able to obtain favorable Commission action on various of its applications, notwithstanding the fact that the Commission had knowledge, or should have

had knowledge," of Interstate's violations of the law and Commission regulations.

The ICC statement said the Commission was "surprised" at Mr. Harris' comment "in view of our own positive action in connection with this and other carriers and our complete cooperation with the subcommittee in giving it all the facts in our possession."

With reference to the imprisonment of Interstate's president, the Commission said his conviction "resulted from the Commission's recommendation to the Department of Justice for prosecution." This recommendation "was prior to the creation of the subcommittee," the Commission added.

As to the Harris reference to the subcommittee's information that Interstate "illegally" acquired control of Gold Star, the Commission noted that it is investigating that matter in a proceeding instituted last November. In July, it received a proposed report recommending a finding that there is control of Gold Star in a common interest with Interstate in violation of the Interstate Commerce Act's Section 5 (r).

The examiner also recommended that the Commission order the control terminated. That's all the Commission thought it should say about the case because:

"The period for filing exceptions to the hearing examiner's report has not expired. Since the matter will shortly be before the Commission for final decision, any further comment would be inappropriate."

Contracts Awarded for GN Pipeline Project

Contracts have been awarded for the first segment of a crude oil gathering system to be built by Great Northern in North Dakota. Pipe Line Technologists, Inc., Houston, Tex., consulting engineers acting in behalf of GN, awarded the pipeline contract to Curran & Co., of Great Falls, Mont.

First phase of the project will cost more than $1,700,000. It will cover construction of 50 miles of 10-in. and 6-in. line from the Newburg, Wiley and Glenburn fields to storage and a loading rack in GN's Minot, N. D., yards. Where practical, the line will follow rail right-of-way. The system is to be extended another 64 miles northwest to the Lignite fields next year, at a cost of about $1,600,000.

Three pump stations will be built simultaneously with the pipeline and loading rack. Construction will start immediately, and GN expects to have the first segment in operation by Nov. 1.

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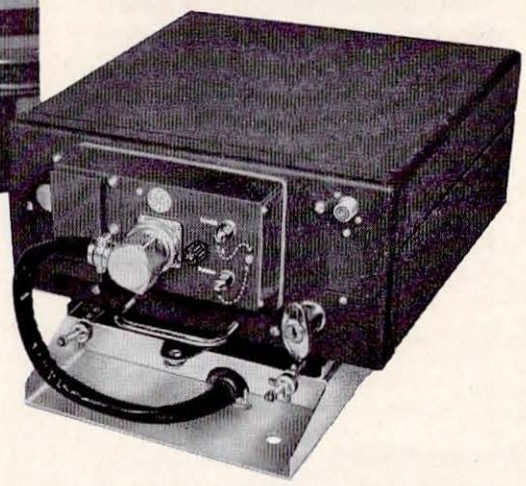

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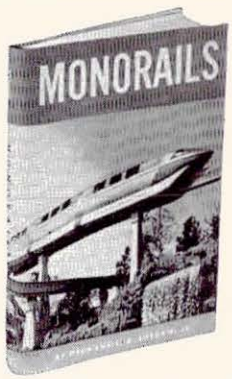

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In replying, please supply resume detailing education and experience and state present earnings. All replies confidential.

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Trends Are All-Important

It was James Whitcomb Riley's Little Orphan Annie, as we recall, who warned that "the goblins will get you if you don't watch out." In the railroad business, the place of the goblins has been taken by adverse trends—of costs, of traffic volume, of plant renewal.

The most important trend there is in the railroad business is that of gross traffic and revenue —and that is a trend most railroad people have not been adequately schooled to watch, because for over a century the upward trend of traffic volume took care of itself.

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Suppose, for instance, that the railroads last year hauled a billion pounds (500,000 tons) of a commodity (let's call it "giblets") at an average rate of $1 per 100 lb, bringing in $10,000,000 of revenue. And suppose the profit margin (i.e., the earnings above out-of-pocket costs) was 25%— or 25¢ per 100 lb, on the basis of last year's conditions and last year's volume of this traffic. In other words, last years "giblets" traffic contributed $2,500,000 to earnings after the deduction of direct handling costs.

But suppose, also, that railroad tonnage of this product has been declining at the rate of 10% (50,000 tons) a year. That means that, this year, unless the decline is arrested, gross revenues are going to be only $9,000,000 and, in 1961, only $8,000,000—so that earnings above direct expense are going to be $2,250,000 in 1960 and $2,000,000 in 1961, even assuming no increase in unit costs (which would probably rise, especially with a decline in volume).

Now suppose, in order to stop this declining traffic trend, strategic rate reductions are made which average 20%. This year's revenues would thus be reduced to $8,000,000, instead of $9,000,000—and the net earnings above direct costs would not be the $2,250,000 previously indicated, but only $500,000 (5¢ profit per cwt. on 10 million cwt. instead of 25¢ per cwt. on 9 million cwt.)

The easy answer to a situation like this is to decide that we "can't afford" to lose all this net money, and we'd better let the present rates stand, even though they are losing business for us at the rate of 50,000 tons a year. But is this easy answer the right answer? Where will we be five years from now, if we do not make rate adjustments to stop this erosion of tonnage?

The volume will, by then, have declined to 500,000,000 lb (250,000 tons). Our profit margin above costs cannot be expected to stay at 25¢ per 100 lb with such a decline in volume. It will, not unlikely, go down by one-half, say to 12.5¢ per 100 lb, bringing in a profit total of $625,000 above out-of-pocket costs.

On the other hand, where will we be five years from now if we make a strategic reduction in rates averaging 20%, which will completely stop the tonnage erosion and let us enjoy an annual growth in this business equal in percentage to the increase (let's say 5%) in national production of this commodity? On this assumption, the railroad volume of this commodity five years from now would be up 25% from the current one billion pounds.

On an increasing volume like this, the modest profit margin of 5 cents per cwt. above out-of-pocket costs could be expected to rise, probably, to 10 cents (especially if part of the rate reduction were offered in the form of "incentive loading discounts" to encourage heavier loads per car). The prospective profit on a volume of 1¼ billion pounds would be $1,250,000, against a profit prospect of only half that amount five years from now, if nothing is done to arrest the continuing erosion of this traffic.

The foregoing "guesstimates" are on the conservative side. For example, they do not depend upon the attraction of a single pound of freight from trucks back to movement by rail. All they assume is that the new rates will put a stop to the present drift of tonnage away from the railroads; and that, hereafter, railroad tonnage in this commodity will grow at the same percentage rate as the growth in production of the commodity.

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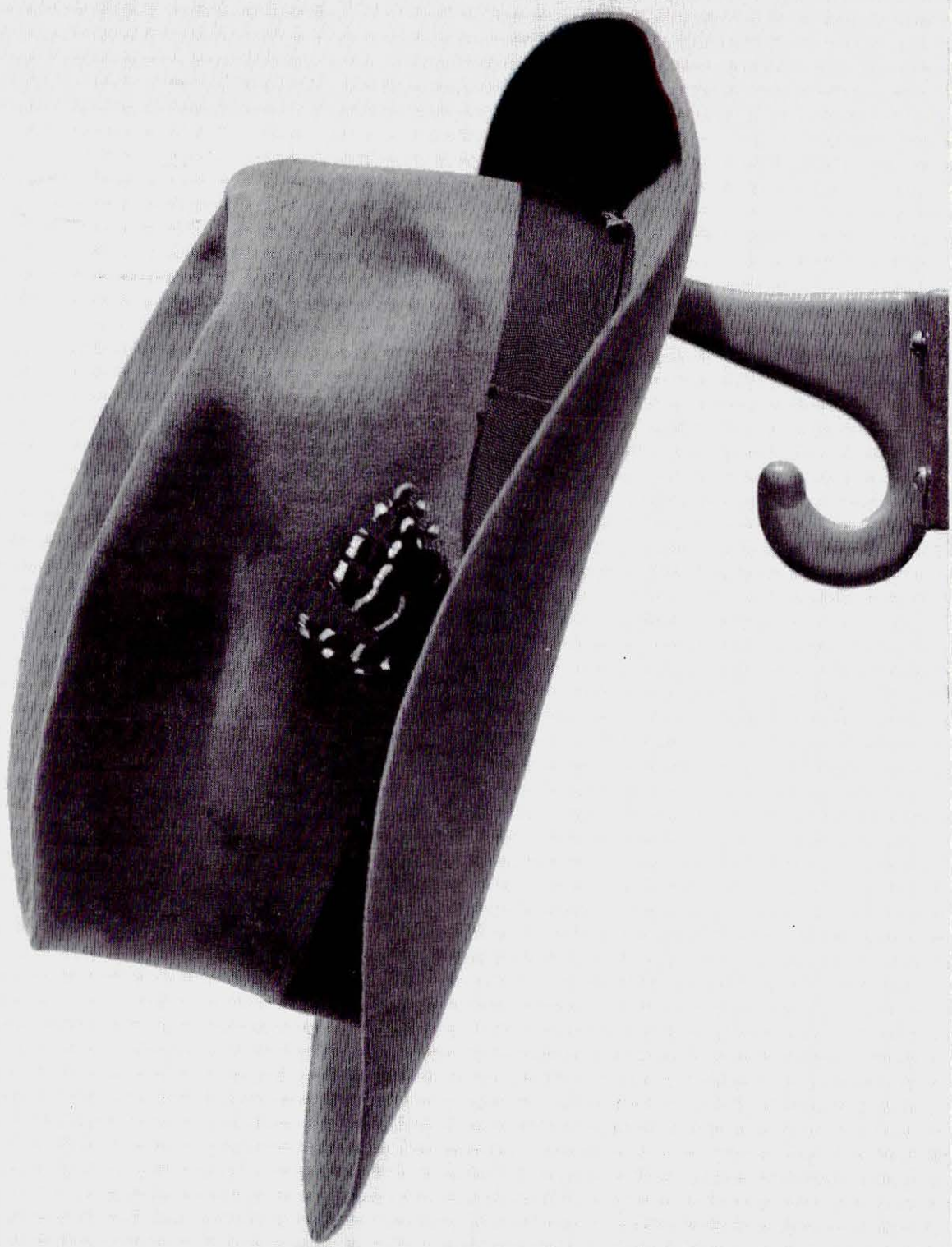
The point is that—in making rates to increase railroad traffic and net earnings—it is the trends, and only the trends, that are important. You can afford to live with a deficit, at least for a short time, if that is the price you have to pay to get traffic and earnings to trend upward. You are as good as dead already, even with a good fat present profit, if the trend is against you and you are doing nothing to change it.



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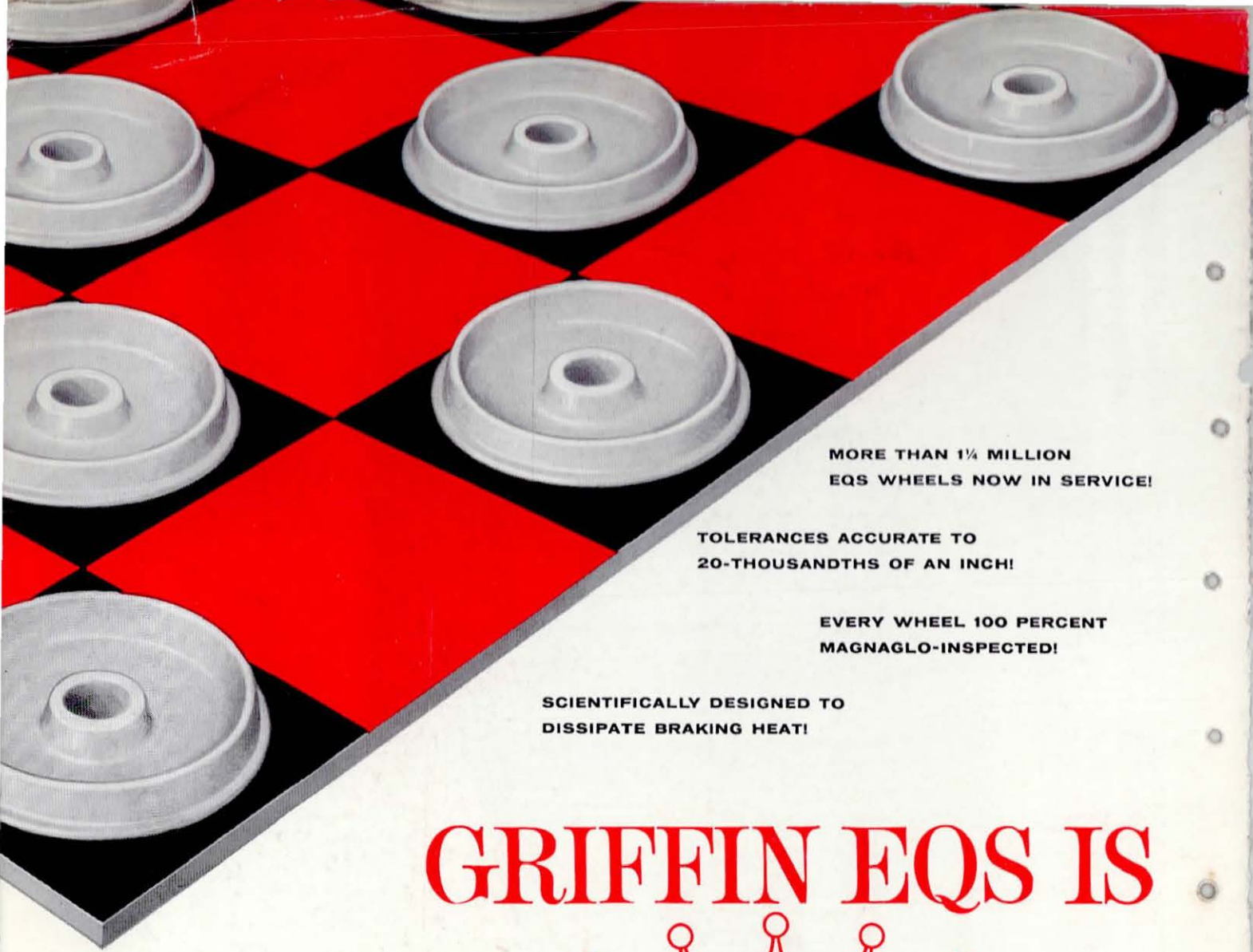

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